

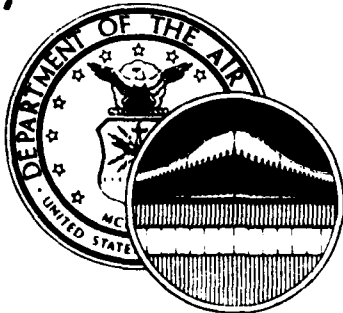
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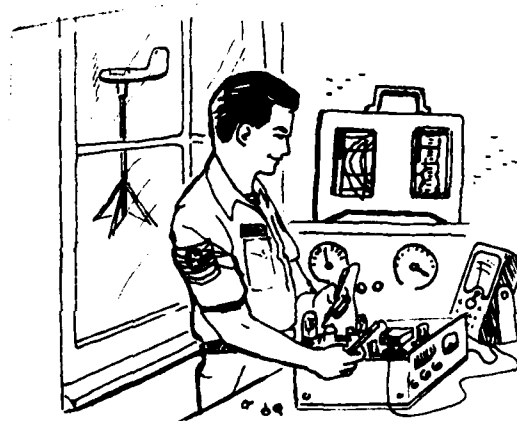
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UNITED STATES AIR FORCE

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OCCUPATIONAL SURVEY REPORT



WEATHER EQUIPMENT CAREER LADDER

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AFPT 90-302-399

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OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
AIR TRAINING COMMAND
RANDOLPH AFB, TEXAS 78148

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TABLE OF CONTENTS

	PAGE NUMBER
PREFACE -----	111
SUMMARY OF RESULTS -----	1v
INTRODUCTION -----	1
SURVEY METHODOLOGY -----	2
CAREER LADDER STRUCTURE -----	5
ANALYSIS OF DAFSC GROUPS -----	15
ANALYSIS OF AFMS GROUPS -----	25
ANALYSIS OF CONUS VERSUS OVERSEAS GROUPS -----	33
ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS -----	36
TRAINING ANALYSIS -----	39
COMPARISON OF ATTENDEES AND NONATTENDEES OF ELECTRONIC PRINCIPLES COURSE 5AQN30230 -----	46
COMPARISON OF CURRENT SURVEY TO PREVIOUS SURVEY -----	48
IMPLICATIONS -----	51
APPENDIX A -----	53
APPENDIX B -----	54

Per Form 50

A

PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Weather Equipment career ladder (AFSCs 30230, 30250, 30270, and 30299). The project was directed by USAF Program Technical Training, Volume Two, dated June 1979. Authority for conducting occupational surveys is contained in AFR 35-2. Computer outputs from which this report was produced are available for use by operating and training officials.

The occupational survey program within the Air Force has been in existence since 1956 when initial research was undertaken by the Air Force Human Resources Laboratory to develop the methodology for conducting occupational surveys. In 1967, an operational survey program was established within Air Training Command and surveys were produced annually on 12 enlisted specialties. In 1972, the program was expanded to annually produce occupational surveys of 51 career ladders.

The survey instrument was developed by Mr. David E. Williams, Inventory Development Specialist. Mr. Robert L. Alton, Occupational Survey Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Jimmy L. Mitchell, Chief, Airman Career Ladders Analysis Section, Occupational Survey Branch, USAF Occupational Measurement Center, Randolph AFB, Texas 78148.

Computer programs for analyzing the occupational data were designed by Dr. Raymond E. Christal, Manpower and Personnel Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Computer Programming Branch, Technical Services Division, AFHRL.

Copies of this report are available to air staff sections, major commands, and other interested training and management personnel upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Randolph AFB, Texas 78148.

This report has been reviewed and is approved.

BILLY C. McMASTER, Col, USAF
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SUMMARY OF RESULTS

1. Survey Coverage: The Weather Equipment career ladder job inventory was administered worldwide during the fall of 1979 and these data were analyzed by March 1980. Survey results are based on responses from 557 members, or 77 percent of all assigned career ladder members (CEM Code 30100 personnel excluded).
2. Career Ladder Structure: Twelve job groups were identified, eight of which (representing 92 percent of the survey sample) were performing primarily organizational or intermediate level maintenance on surface or upper air weather observation equipment. The remaining job groups were distinguished by their specialization on certain equipment, depot level maintenance, or supervisory and managerial duties. Although some small groups specialized on some pieces of equipment, generally most personnel performed some maintenance on the majority of the conventional weather observation equipment (amount of time spent on equipment items varied somewhat), thus indicating a career ladder that is relatively homogeneous and stable in nature.
3. Career Ladder Progression: Personnel at the 5-skill level spent almost all their job time performing technical tasks. While 7-skill level members' supervisory and managerial duties were greater than the 5-skill level airmen, they were still performing highly technical jobs, with many technical tasks performed in common with 5-skill level personnel. Nine-skill level NCOs were primarily managers and staff members.
4. AFMS Differences: Generally, as time in service increased, there was a corresponding increase in performance of duties involving supervisory and managerial tasks. First through fourth enlistment respondents, however, reported a job which was primarily technical, with the fifth enlistment group splitting their time between technical and managerial functions. Not until passing the 20-year point did members shift to spending the majority of their job time in supervisory and managerial functions.
5. CONUS and Overseas Groups: There was little difference noted between tasks performed by these groups. The only noteworthy variances were that more CONUS personnel were performing radar equipment related tasks, while more overseas personnel were performing tasks related to tactical equipment.
6. AFR 39-1 Specialty Descriptions: The 9-skill level specialty description was very accurate in portraying the nature of the job. The 7- and 5-skill level descriptions may require some adjustments in the emphasis on the supervisory nature of the jobs in the career ladder.
7. Training Analysis: The STS provided a generally accurate and complete display of the main career ladder functions and tasks. The POI, overall, provides training oriented to tasks performed in the field. Two units may require closer review by training personnel due to the low number of members performing related tasks in the field during the first enlistment period.

8. Implications: First enlistment personnel indicate low reenlistment intentions when compared with similar career ladders. While some possible reasons for this dissatisfaction are beyond control of Air Force management personnel, other factors may be issues which can be dealt with. Further study of the dissatisfaction issue may be warranted in an effort to avert the unnecessary loss of these highly trained personnel.

OCCUPATIONAL SURVEY REPORT
WEATHER EQUIPMENT CAREER LADDER
(AFSCs 30230, 30250, 30270, AND 30299)

INTRODUCTION

This is a report of an occupational survey of the Weather Equipment career ladder (AFSCs 30230, 30250, 30270, and 30299) completed by the Occupational Survey Branch, USAF Occupational Measurement Center, in March 1980. The survey was requested by Chanute Technical Training Center personnel to obtain current task data on the 302X0 career ladder.

Background

The 302X0 Weather Equipment career ladder was established as such in 1958 when equipment functions were deleted from the 251X0 Ground Weather Equipment Operator career ladder. Originally identified as Weather Equipment Repairmen/Technicians in 1958, the AFSC titles were changed in May 1975 to their current designation of Weather Equipment Specialists/Technicians. The 9-skill level designation was originally established as 30290, changing to 30291 in January 1967, and to the present 30299 in April 1979. The ladder was included under Chief Enlisted Manager (CEM) Code 30100 when the code was established in October 1978.

Personnel in this ladder are responsible for the installation, inspection, maintenance, and repair of electronic and mechanical meteorological observing equipment. This includes conventional surface (both fixed-installation and tactical-mobile), upper air data (vertical-sounding), and solar observation equipment. The primary entry into this ladder is from Basic Military Training School (BMTS) through the sixteen week 3ABR30230-003 course at Chanute AFB IL. Students in the 3ABR30230-003 course must have graduated from the 21 week Electronics Principles Course, 5AQN30230-000 (or equivalent), currently conducted at Great Lakes Naval Training Center IL.

Results of previous studies involving Weather Equipment personnel were published in Occupational Survey Reports (OSR) for Weather Equipment Repair (302X0) and Space System Command and Control Equipment (AFSC 308X0) and Selected Weather Equipment (AFSC 302X0). The OSR for the Weather Equipment Repair career ladder (AFPT 90-302-044) was dated 1 December 1972, and the Space System Command and Control Equipment/Selected Weather Equipment OSR (AFPT 90-308-071) was completed 16 September 1975. Participation of 302X0 personnel in the 308X0 study was limited to those assigned to Air Weather Service (AWS) satellite mobile van functions (Defense Meteorological Satellite Program-DMSP) and the Global Weather Center. Subsequent to these two studies, the duties and responsibilities of DMSP 302X0 personnel were transferred to the 308X0 career ladder in April 1978.

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Additionally, since these two studies were completed, 302X0 personnel have been transferred from Air Weather Service and Military Airlift Command (MAC) to the Air Force Communications Command. This change was effective October 1977.

Major topics discussed in this report include: (1) survey methodology; (2) job structure found within the career ladder; (3) comparisons of the job structure and other survey data with career ladder documents, such as AFR 39-1 Specialty Descriptions, Plan of Instruction (POI), and the Specialty Training Standard (STS); (4) an analysis of Active Federal Military Service (AFMS) groups and Duty AFSC groups; (5) an analysis of CONUS versus Overseas groups; (6) comparison of the current survey with the previous survey; and (7) the implications of this occupational survey report.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-302-399, dated June 1979. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, available write-in comments from the last survey, and data from the last OSR. The task list was then evaluated in the field through personal interviews with ten subject matter specialists from four bases. The resulting job inventory contained a comprehensive listing of 342 tasks grouped under 11 duty headings and a background section including such information as grade, time in service, job interest, and equipment maintained.

Survey Administration

During the period July through December 1979, Consolidated Base Personnel Offices (CBPOs) in operational units worldwide administered the inventory to job incumbents holding DAFSC 302X0 and 30299. These job incumbents were selected from a computer generated mailing list obtained from personnel data tapes maintained by the Air Force Human Resources Laboratory (AFHRL).

Each individual who completed the inventory first completed an identification and biographical information section and then checked each task performed in their current job. After checking all tasks performed, each member then rated each of these tasks on a nine-point scale showing relative time spent on that task as compared to all other tasks checked. The ratings ranged from one (very-small-amount time spent) through five (about-average time spent) to nine (very-large-amount time spent).

To determine relative time spent for each task checked by a respondent, all an incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Task Factor Administration

In addition to completing the job inventory, selected senior 302X0 personnel were also asked to complete a second booklet for either training emphasis (TE) or task difficulty (TD). The TE and TD booklets are processed separately from the job inventories. The information is then used in a number of different analyses discussed in more detail within the report.

Task Difficulty. Each individual completing a task difficulty booklet was asked to rate all of the tasks on a nine-point scale from extremely low to extremely high as to the relative difficulty of that task. Difficulty is defined as the length of time required by the average member to learn to do that task. Task difficulty data were independently collected from 51 experienced 7- or 9-skill level personnel stationed worldwide. The interrater reliability (as assessed through components of variance of standard group means) of .96 for these 302X0 raters suggests very high agreement among raters. Ratings were adjusted so that tasks of average difficulty have ratings of 5.00. The resulting data is essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Job Difficulty Index (JDI). After computing a task difficulty rating for each task item, it is then possible to also compute a Job Difficulty Index (JDI) for the job groups identified in the survey analysis. This index provides a relative measure of which jobs, when compared to other jobs identified, are more or less difficult. An equation using the number of tasks performed and the average difficulty per unit time spent (ADPUTS) as variables is the basis for the JDI index. The index ranges from 1.0 for very easy jobs to 25.0 for very difficult jobs. The indices are adjusted so that the average job difficulty index is 13.00. Thus, the more time a group spends on difficult tasks, and the more tasks they perform, the higher their job difficulty index.

Training Emphasis. Individuals completing training emphasis booklets were asked to rate tasks on a ten-point scale from no training required to extremely heavy training required. Training emphasis is a rating of which tasks require structured training for first term personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. Training emphasis data was independently collected from 50 experienced 7- or 9-skill level personnel stationed worldwide. The interrater reliability (as assessed through components of variance of standard group means) for these raters was high (.97), indicating that there was good agreement among raters as to which tasks required some form of structured training and which did not. In this specialty, tasks rated highest in training emphasis have ratings of 5.7 and above; the average training emphasis is 3.6, and those tasks with ratings of 1.5 or below can be considered as requiring very little emphasis in training.

When used in conjunction with other factors, such as percent members performing, the task difficulty and training emphasis ratings can provide an insight into training requirements. This may help validate the lengthening or shortening of specific units of instruction in various training programs.

Survey Sample

Personnel were selected to participate in this survey so as to insure proper representation across MAJCOM and paygrade groups. Ninety-five percent of all Weather Equipment personnel are assigned to Air Force Communications Command (AFCC) (formerly Air Force Communications Service). The balance of the sample indicated assignment to Air Training Command (ATC), Military Airlift Command (MAC), and Air Force Systems Command (AFSC). Table 1 compares the paygrade distribution of assigned personnel in the career ladder as of June 1979 to respondents in the final survey sample. The 557 respondents included in the final sample represent 77 percent of the total assigned 302X0 personnel. Table 2 reflects the distribution of respondents by Active Federal Military Service (AFMS) groups. Overall, the survey sample provides a very good representation of the career ladder.

TABLE 1

PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED*</u>	<u>PERCENT OF SAMPLE</u>
AMN	18	16
E-4	33	35
E-5	27	28
E-6	12	12
E-7	8	7
E-8	2	2

* MANNING FIGURES AS OF JUNE 1979

NOTE: CEM CODE 30100 PERSONNEL WERE NOT SURVEYED;
THEREFORE, E-9 DATA IS NOT PRESENTED

TABLE 2

AFMS DISTRIBUTION OF SURVEY SAMPLE

<u>AFMS (MONTHS)</u>	<u>PERCENT OF SAMPLE</u>
1-48	38
49-96	24
97-144	12
145-192	12
193-240	10
241+	4

CAREER LADDER STRUCTURE

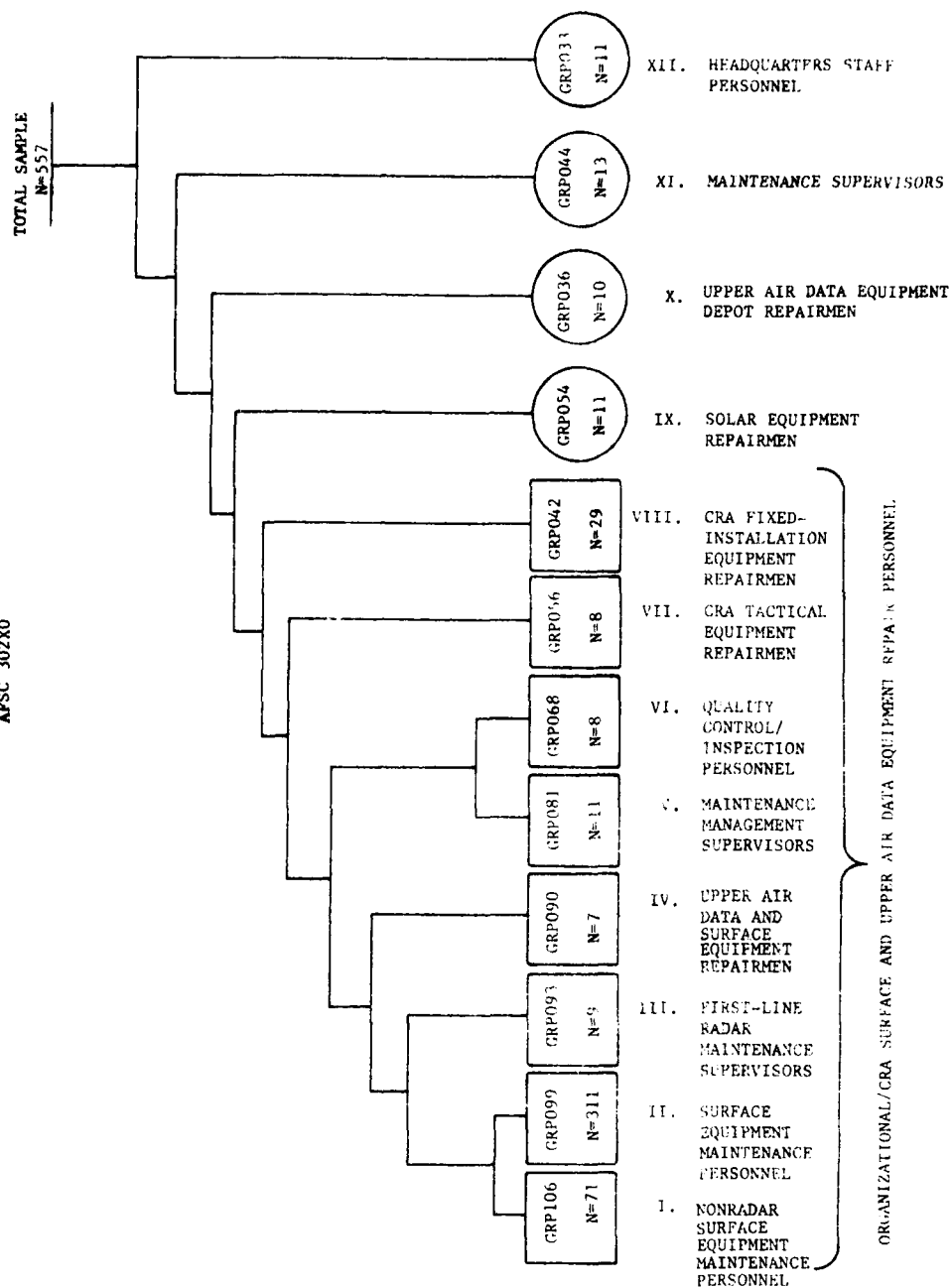
A key aspect of the USAF occupational analysis program is to examine the structure of career ladders--what people are actually doing in the field, rather than how official career field documents say they are organized. This analysis is made possible by the Comprehensive Occupational Data Analysis Programs (CODAP). CODAP consists of a series of computer programs which generate a number of statistical products used in the analysis of career ladders. The primary product used to analyze career ladders is a hierarchical clustering of all jobs based on the similarity of tasks performed and relative time spent. This process permits identification of the major types of work being performed in the occupation (career ladder) and is analyzed in terms of the job description and background data of each type of job. This information is then used to examine the accuracy and completeness of career ladder documents (AFR 39-1 Specialty Descriptions and Specialty Training Standards) and to formulate an understanding of current utilization patterns.

The basic identifying group used in the hierarchical job structure is the Job Type. A job type is a group of individuals who perform many of the same tasks and spend similar amounts of time performing these tasks. A Cluster is a group of job types which have a substantial degree of similarity. Finally, there are often specialized jobs that are too dissimilar to be grouped into any cluster. These unique groups are labeled Independent Job Types.

Based on the task similarity and relative percent time spent, the structure of the jobs performed in the 302X0 career ladder is illustrated in Figure 1; these job groups are also listed below. The group (GRP) number shown beside each title is a reference to computer printed information included for use by classification and training officials.

- I. NONRADAR SURFACE EQUIPMENT MAINTENANCE PERSONNEL (GRP106, N=71)
- II. SURFACE EQUIPMENT MAINTENANCE PERSONNEL (GRP099, N=311)
- III. FIRST-LINE RADAR MAINTENANCE SUPERVISORS (GRP093, N=9)
- IV. UPPER AIR DATA AND SURFACE EQUIPMENT REPAIRMEN (GRP090, N=7)
- V. MAINTENANCE MANAGEMENT SUPERVISORS (GRP081, N=11)
- VI. QUALITY CONTROL/INSPECTION PERSONNEL (GRP068, N=8)
- VII. CENTRALIZED REPAIR ACTIVITY (CRA) TACTICAL EQUIPMENT REPAIRMEN (GRP056, N=8)
- VIII. CRA FIXED-INSTALLATION EQUIPMENT REPAIRMEN (GRP042, N=29)
- IX. SOLAR EQUIPMENT REPAIRMEN (GRP054, N=11)
- X. UPPER AIR DATA EQUIPMENT DEPOT REPAIRMEN (GRP036, N=10)
- XI. MAINTENANCE SUPERVISORS (GRP044, N=13)
- XII. HEADQUARTERS STAFF PERSONNEL (GRP033, N=11)

FIGURE 1
WEATHER EQUIPMENT CAREER LADDER
AFSC 302X0



Eighty-nine percent of the respondents in the sample perform jobs generally equivalent to the job groups described above. The remaining 11 percent were performing tasks or a series of tasks that did not group with any of the defined job types. Some of the titles given by respondents which are representative of these personnel are; Installations Group Team Member, Technical Instructor, Job Controller, and Weather Radar Evaluation NCO.

Group Descriptions

Overall, the 12 job groups identified in the analysis display a career ladder which is very technical in nature. Only three of the 12 groups are supervisory or staff functions, with the remainder spending between 62 and 87 percent of their job time performing technical tasks. Brief descriptions of the major groups of jobs performed by 302X0 career ladder members are presented below. Tables 3 and 4 provide selected background information for each of these groups.

I. NONRADAR SURFACE EQUIPMENT MAINTENANCE PERSONNEL (GRP106). The 71 personnel in this job group (representing 13 percent of the survey sample) spend the majority of their job time performing maintenance tasks related to surface weather observation equipment, such as the GMQ-20 wind measuring set, GMQ-13 cloud height set, GMQ-10 transmissometer, and the TMQ-11 temperature-dewpoint measuring set. Primarily performing organizational level maintenance, this is one of the few groups with the majority (55 percent) of the members serving at locations overseas. Members spend 79 percent of their job time in duties involving the performance of technical tasks. Typical tasks include inspecting, calibrating, performance checking, isolating malfunctions, and removing or replacing equipment components (additional representative tasks are listed in Appendix A, Table I). Although performing an average of 108 tasks, which cover most of the standard base weather detachment equipment in the field, notably missing from the tasks performed by this group are those associated with meteorological radar sets. Not all weather activities have radar equipment installed due to local topographic features, usual weather conditions, or the proximity of similar equipment at other agencies near the weather units. Overall, personnel in this group were satisfied with their job, with 51 percent indicating that they were likely to reenlist.

Within this job type was a subgroup of working supervisors who identified themselves as Base Level NCOICs or Team Chiefs. While spending 33 percent of their job time on duties relating to supervision, management, training, and administration, they were still predominately technicians performing the full range of technical tasks along with the supervisory ones.

II. SURFACE EQUIPMENT MAINTENANCE PERSONNEL (GRP099). Airmen in this job group represent the largest job group in the survey sample (56 percent). Consisting primarily of 5-skill level (64 percent) and 7-skill level (31 percent) personnel, they devote 83 percent of their job time to duties involving the performance of technical tasks. Tasks performed cover essentially the full range of surface weather observation equipment maintained by personnel in the career ladder, including meteorological radar sets. The high percentage of their job time spent on duties relating to the radar sets (22 percent) is the major feature which distinguishes this job

group from the group discussed above. Incumbents perform the highest average number of tasks (135) of any group in the survey sample. Typical tasks include tracing circuits or signals using block or circuit diagrams; isolating malfunctions on and removing or replacing components in meteorological radar sets; aligning storm detection radars; performance checking receiving systems or power supplies; and inspecting, performance checking, isolating malfunctions, and removing or replacing components of various wind, temperature, visibility, and cloud height sets (see Appendix A, Table II for additional representative tasks). This group has the highest JDI rating (15.39) of any group in study (see Table 3) and ranks considerably higher than the generally similar group described above (JDI rating - 11.62).

Within this job type were several subgroups which differed primarily on the basis of time spent performing tasks and the average number of tasks performed. Three subgroups, representing 38 incumbents, consisted of personnel who indicated that they worked in CRAs (intermediate level maintenance facilities established in certain geographic locations in support of field units within their assigned areas). Predominately 5-skill level personnel, they perform fewer average number of tasks than the job group as a whole, and tend to spend more of their job time on wind measuring and radar equipment. The majority of these group members identify themselves as CRA Maintenance Team Members, and, as such, are required to perform TDY to other bases in their areas of coverage to assist local base personnel with unusual maintenance problems or workloads and for some periodic inspections of equipment. Consequently, they appear to perform many of the same tasks accomplished by base-level organizational maintenance personnel, with the distinguishing factor being the relative time spent on tasks.

Another subgroup identified consists of 17 airmen who, while remaining technicians, spent 40 percent of their job time in supervisory, training, and administrative related duties. Calling themselves NCOICs, Team Chiefs, and Workcenter Supervisors, they tended to spend more time than others in the overall group on the more difficult tasks in the career ladder.

The last noteworthy subgroup within the job type group is composed of 16 respondents who, along with the standard weather station equipment maintained by the rest of the overall group, were also performing tasks relating to the maintenance of upper air data equipment that encompassed 14 percent of their job time.

Sixty-six percent of the personnel in this job group reported that their job was interesting. While 82 percent indicated that their training was utilized fairly well to perfectly and 79 percent felt that their talents were properly utilized, 52 percent indicated they either will not or probably will not reenlist. However, five percent of this group also reported being ineligible to reenlist.

III. FIRST-LINE RADAR MAINTENANCE SUPERVISORS (GRP093). Members of this group primarily identify themselves as supervisors, with titles such as NCOIC, Team Chief, and Assistant Workcenter Supervisor. A small group, they comprise only two percent of the total sample, or nine airmen. While they do spend 22 percent of their job time performing in supervisory, training, and administrative duties, they perform an average of only 95 tasks, with the majority of their technical job time devoted to tasks

involving weather radar sets. These highly specialized airmen perform many of the most difficult tasks in the inventory and spend over 50 percent of their job time on only 47 tasks. Dominant tasks performed include: performance checking indicating, receiving, transmitting, and power monitoring systems; measuring receiver frequencies; measuring radar systems sensitivity; and supervising Weather Equipment Specialists (Appendix A, Table III includes additional representative tasks). Group members generally feel that their job is interesting and that their talents and training are well utilized.

IV. UPPER AIR DATA AND SURFACE EQUIPMENT REPAIRMEN (GRP090). This small group of airmen perform organizational level maintenance on much of the same surface weather observation equipment as groups previously discussed. The distinguishing characteristic of these seven airmen is that they also devote over one-fourth of their job time to inspecting, checking, and adjusting upper air data equipment, such as GMD-2 radiosonde equipment, TMQ-5 meteorological recorders, and GMM-3 base line check sets. Performing an average of 111 tasks (see Appendix A, Table IV for representative tasks), this group is the least experienced of any of the job groups in the study. Comprised of first-term or cross-trainee personnel, they average only 33 months in the career field and 53 months in service, with 86 percent reporting that they hold the 5-skill level and 14 percent the 3-skill level. Job satisfaction indicators are relatively low, with only 57 percent indicating that their job is interesting and that their talents and training are being properly utilized.

V. MAINTENANCE MANAGEMENT SUPERVISORS (GRP081). While spending 34 percent of their job time in duties involving technical tasks, this small group (11 members) of NCOs (average grade 6.4) are predominantly supervisors and administrators. Approximately 21 percent of their job time is spent performing administrative management tasks, such as making entries on maintenance data records and forms, preparing activity reports, updating equipment-in-place records, and preparing or updating records on accountable equipment. Supervisory, managerial, and training task performance consumes the remaining 45 percent of this group's job time. Common tasks representative of the supervisory functions are supervising Weather Equipment Specialists, implementing programs, scheduling leaves or passes, and preparing APRs (see Appendix A, Table V for additional tasks). Members perform an average of 122 tasks, with 91 percent holding 7- or 9-skill level DAFSCs. An additional distinctive feature of the group is that they have among the highest average number of people supervised (3.9) of any of the groups identified. These NCOs seem well satisfied with their jobs, with 73 percent reporting that their jobs are interesting and that their training is well utilized, while 82 percent feel that their talents are used fairly well to perfectly.

VI. QUALITY CONTROL/INSPECTION PERSONNEL (GRP068). This job group was differentiated by the predominance of inspecting, performance checking, and evaluation tasks performed. Performing an average of 122 tasks, 50 percent of their job time was spent on only 45 tasks, with 39 of those 45 specifically tied to inspecting, checking, or evaluating. Typical of these tasks were inspecting equipment using performance criteria checklists, evaluating alignment or calibration procedures, and performance checking indicating systems (Appendix A, Table VI contains additional representative

tasks). With eight members in the group, 75 percent held DAFSC 30270, with 25 percent in DAFSC 30299. Significantly, these NCOs reflect the second highest average time in the career field (156 months) of any group in the survey sample, surpassed only by the Headquarters Staff group (166 months). Eighty-eight percent of the group found their jobs interesting and their training utilized fairly well to perfectly, while 100 percent felt that their talents were properly utilized.

VII. CRA TACTICAL EQUIPMENT REPAIRMEN (GRP056). This small group (eight members) is distinguished from previous groups by the high percentage of their job time spent in general maintenance functions (29 percent) and performing operational checks and adjustments on tactical (portable/mobile) wind, temperature, and cloud weather equipment (22 percent). Typical tactical weather observation equipment maintained includes the TMQ-15 wind measuring set, TMQ-20 temperature-dewpoint measuring set, TMQ-14 cloud height set, TMQ-22 meteorological measuring set, and the AN/FPS-103 meteorological radar set. Spending over 50 percent of their job time on just 57 tasks (average number of tasks performed is 132), 75 percent of the members are at the 5-skill level while the remainder of the group hold DAFSC 30270. Common tasks performed by this job group include: soldering both solid and non-solid state components or devices; tracing circuits or signals; cleaning equipment mechanical or electrical components; and inspecting, adjusting, calibrating, and removing or replacing components of the tactical equipment mentioned above (see Appendix A, Table VI for representative tasks). CRA Tactical Equipment Repairmen performed a job that was rated the second most difficult (JDI rating - 15.33) of all the career ladder groups. Job satisfaction indicators were relatively high, with 75 percent reporting that their training was well utilized and their jobs were interesting, while 88 percent perceived that their talents were properly used. Seventy-five percent of the members indicate that they will, or probably will, reenlist (second highest percentage of any group identified).

VIII. CRA FIXED-INSTALLATION EQUIPMENT REPAIRMEN (GRP042). Representing five percent of the survey sample (29 members), this job group consists primarily of first-term (70 percent) airmen performing as Maintenance Team Members at centralized repair activities. Spending the largest amount of their job time (37 percent) in duties involving general maintenance functions, they perform an average of only 59 tasks (compared to 132 for the Group VII above) with 27 of those tasks consuming over 50 percent of their job time. Only two of those top 27 tasks are rated above average in difficulty. Example of tasks performed are: spraying or brush painting equipment; tightening loose nuts, bolts, or screws; inspecting equipment for corrosion; cleaning equipment mechanical or electrical components; and polishing or waxing equipment or facilities (see Appendix A, Table VIII for additional representative tasks). These airmen are distinguished from Group VII above by the predominant amount of time spent on the fixed-installation weather observing equipment (e.g., primarily GMQ-20 and GMQ-11 wind measuring sets, GMQ-10 transmissometers, and GMQ-13 cloud height sets) as opposed to the tactical equipment described in the previous group discussion. The low average number of tasks performed (59) and the high number of less difficult tasks combine to form a rather narrow job with one of the lowest JDI ratings (6.93) of any group identified in the survey sample. Incumbents, who have the lowest average grade (3.8) of any group, were next to the lowest in the survey sample in average time in the career field (46 months)

and average time in service (54 months). Job satisfaction indices were the lowest of any group in the survey sample. Fifty-nine percent reported their job was dull or so-so, while 48 percent indicated their talents were used little or not at all. Forty-one percent reported that their training was not properly utilized. Not surprisingly, this group also reported the lowest reenlistment intention rate (34 percent) of all groups identified.

In view of the dissatisfaction reflected by this group, career field managers, and particularly management personnel at the centralized repair activities, may find it advantageous to evaluate their workcenters with a view toward somehow expanding the scope of the jobs. Since the majority of these personnel are in their first enlistment and average 24 months in their present job, they have spent essentially the working period (nontraining time) of their entire enlistment in the confines of a rather narrow job which, it would appear, does not effectively utilize their extensive training and may not allow them to compete on an equitable basis in the skills testing program.

IX. SOLAR EQUIPMENT REPAIRMEN (GRP054). Personnel in this small group (11 members) devote their job time almost exclusively to the maintenance of solar radio and solar optical telescopes and supporting equipment. Divided about equally between CONUS (46 percent) and overseas (54 percent) locations, most incumbents hold DAFSC 3027C (82 percent), with the remaining 18 percent serving in the 5-skill level. Although the average grade for the group is 5.3 and the incumbents are predominantly at the 7-skill level, only 17 percent of their job time is spent in supervisory, managerial, or training functions; thus indicating the highly technical nature of their work. Tasks performed in the process of operating, servicing, and troubleshooting solar observation equipment include: tracing circuits or signals using block or circuit diagrams; soldering solid state devices; inspecting electrical cables or wiring; lubricating equipment mechanical or electrical components; adjusting lens systems; and cleaning optical surfaces (additional representative tasks are listed in Appendix A, Table IX). The entire group (100 percent) found their job interesting (highest of any group in the sample), with 91 percent reporting that their talents were used properly and 73 percent perceiving that their training was utilized fairly well or better.

X. UPPER AIR DATA EQUIPMENT DEPOT REPAIRMEN (GRP036). All incumbents of this job group (ten members) are assigned to one organization at Tinker AFB OK. These highly specialized, technically-oriented personnel devote 78 percent of their job time to the performance of general maintenance and inspections, checks, and adjustment of upper air data weather equipment. With an average grade of 4.9, incumbents are evenly split between 5- and 7-skill level DAFSCs. The only group in the sample performing exclusively depot level maintenance, they deal primarily with the GMD-1, GMD-2, and GMD-4 radiosonde equipment units, TMQ-5 meteorological data recorders, and the GMM-1 and GMM-3 base line check sets. Although performing an average of 71 tasks, the highly specialized nature of the job is reflected in the fact that 50 percent of their job time is spent on only 29 tasks. Common tasks for the group are tracing circuits or signals using block or circuit diagrams, isolating malfunctions on GMD-2 or TMQ-5 equipment units, soldering solid or non-solid state components or devices, and cleaning and tinning soldering equipment (see Appendix A, Table X for further examples of tasks). While the majority felt that their talents and training were utilized fairly well to perfectly, only 50 percent found their job interesting. This may be a result of the rather limited scope of the job.

XI. MAINTENANCE SUPERVISORS (GRP014) This job group, while still directly associated with maintenance operations (i.e., Maintenance Superintendent, Maintenance Control), reported spending 84 percent of their job time in duties involving supervision, management, and training. Administrative type duties accounted for only 12 percent of their time (in contrast with the Maintenance Management Supervisors 21 percent as discussed in Group V) and technical duties a minor four percent. Typical of the average 45 tasks performed were drafting correspondence, establishing work priorities, estimating personnel requirements, and preparing APRs (more tasks are listed in Appendix A, Table XI). Of the 13 members in the group, all supervise (an average of 5.4 people - highest of any group in the survey sample), with 51 percent reporting DAFSC 30299 and 31 percent DAFSC 30270 (one incumbent is a cross-trainee holding DAFSC 30230 with only four months on the job). Members report being very satisfied with their jobs, with job satisfaction indices the highest of all groups in the sample. Eighty-five percent found their job interesting and 92 percent perceived that their talents and training were utilized fairly well to perfectly.

XII. HEADQUARTERS STAFF PERSONNEL (GRP033). Supervision, management, and administration duties constituted the total job (100 percent) of this 11 member group. The majority of these NCOs (average grade 7.4) hold DAFSC 30299 (64 percent), with the remaining 36 percent reporting DAFSC 30270. The most senior group in the survey sample (166 months in the career ladder and 242 months total active service), these NCOs are all assigned to staff positions at the headquarters level of major air commands or AFCC Communications Areas. None of the group reported performing any technical maintenance tasks, while the dominant tasks performed included drafting correspondence, analyzing inspection reports and maintenance trends, and evaluating publication changes, training programs, and newly installed equipment (see Appendix A, Table XII for additional tasks). Eighty-two percent perceived that their talents and training were utilized properly, however, only 55 percent felt that their jobs were interesting.

Summary

Eight of the 12 identified job groups in the career ladder (92 percent of the survey sample) were performing primarily organizational or intermediate level maintenance on surface or upper air weather observation equipment. The remaining four independent job groups were distinguished by their specialization on specific equipment, depot level maintenance, or their pronounced orientation to supervision and management. Although some small groups specialized on some pieces of equipment, most personnel performed some maintenance on the majority of the conventional weather observation equipment in the field.

Overall, the career ladder was found to be homogeneous in nature and was composed of personnel the majority of whom (with the exception of the CRA Fixed-Installation Equipment Repairmen) found their jobs interesting and reported fairly high degrees of perceived utilization of talents and training.

TABLE 3

SELECTED BACKGROUND DATA ON CAREER LADDER FUNCTIONAL GROUPS

	NONRADAR		SURFACE		FIRST-LINE		UPPER AIR		QUALITY		CRA		CRA FIXED-		SOLAR		UPPER		HEAD-			
	EQUIPMENT MAINTENANCE PERSONNEL		EQUIPMENT MAINTENANCE PERSONNEL		RADAR SURFACE EQUIPMENT MAINTENANCE PERSONNEL		SURFACE EQUIPMENT REPAIRMEN		CONTROL/ INSPECTION PERSONNEL		TACTICAL EQUIPMENT REPAIRMEN		INSTALLATION EQUIPMENT REPAIRMEN		EQUIPMENT REPAIRMEN		AIR DATA EQUIPMENT DEPOT REPAIRMEN		MAINTENANCE SUPERVISORS		HEAD- QUARTERS STAFF PERSONNEL	
NUMBER IN GROUP	71		311		9		7		8		8		29		11		10		13		11	
PERCENT OF SAMPLE	13%		56%		2%		1%		1%		1%		5%		2%		2%		2%		2%	
PERCENT IN CONUS	45%		82%		67%		86%		75%		100%		79%		46%		100%		85%		91%	
DAFSC DISTRIBUTION:																						
30230	5%		5%		0%		14%		0%		0%		7%		0%		0%		8%		0%	
30250	61%		64%		33%		86%		0%		75%		79%		18%		50%		0%		0%	
30270	34%		31%		67%		0%		75%		25%		14%		82%		50%		31%		36%	
30299	0%		0%		0%		0%		25%		0%		0%		0%		0%		61%		64%	
AVERAGE GRADE	4.5		4.4		4.9		4.1		6.1		4.6		3.8		5.3		4.9		7.0		7.4	
AVERAGE MONTHS IN CAREER FIELD	77		69		89		33		156		80		46		101		78		154		166	
AVERAGE MONTHS IN SERVICE	90		84		101		53		177		85		54		129		101		216		242	
PERCENT IN FIRST ENLISTMENT	23%		43%		22%		57%		0%		62%		70%		0%		40%		0%		0%	
PERCENT SUPERVISING	35%		34%		78%		14%		37%		25%		14%		9%		30%		100%		9%	
AVERAGE NUMBER OF PERSONS SUPERVISED	.7		.9		1.6		.3		.6		1.0		.3		.1		2.3		5.4		.1	
AVERAGE NUMBER OF TASKS PERFORMED	108		135		95		111		122		132		59		58		71		45		17	
JOB DIFFICULTY INDEX (JDI) (AVERAGE JDI=13.00)	11.62		15.39		14.20		13.70		15.14		15.33		6.93		6.38		11.35		10.97		7.77	

COMPARISON OF JOB SATISFACTION INDICES BY CAREER LADDER FUNCTIONAL GROUPS
(PERCENT MEMBERS PERFORMING)

[illegible]

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational analysis. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information is also used to evaluate how well career ladder documents, such as AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS), reflect what career ladder personnel are actually doing in the field.

A comparison of duty and task performance between DAFSCs 30230 and 30250 indicated that the jobs they perform are essentially the same. Since there were only 29 respondents indicating DAFSC 30230, the 3-skill level will not be discussed separately in this report.

The distribution of skill levels across the career ladder job groups is displayed in Table 5, while Table 6 presents the relative percent time spent on each duty across the skill level groups. As personnel progress upward through the skill levels, the amount of time spent performing supervisory, managerial, training, and administrative tasks (Duties A, B, C, D, and E) generally increases. At the same time, performance of technical tasks generally decreases as the skill level increases. While the time spent in duties involving supervision, management, and technical tasks displays what would be considered normal utilization and progression patterns, there is a nucleus of basic maintenance tasks (see Table 7) performed by a significantly high percentage of personnel across the 302X0 career ladder. This performance of common tasks by 5- and 7-skill level airmen reflects a career ladder that is fairly homogeneous in nature.

Skill Level Descriptions

DAFSC 30250. Five-skill level personnel, representing 57 percent (318 members) of the survey sample, performed an average of 106 of the 342 tasks in the job inventory, with 60 tasks occupying over 50 percent of their job time. Members spent 85 percent of their time on technical duties, with 62 percent of that time devoted to performing checks and adjustment to wind, temperature, visibility, and cloud height sets and performing general maintenance functions. Common tasks performed included tightening loose nuts, bolts or screws; replacing plug-in or snap-in components, such as batteries, fuses, or vacuum tubes; tracing circuits or signals using block diagrams; and spraying or brush painting equipment. Sixty-five percent of the group reported spending most of their time in organizational maintenance, with 54 months average time in service, and an average grade of 3.98. Table 8 presents additional representative tasks performed by 5-skill level personnel.

DAFSC 30270. The 184 personnel at the 7-skill level performed an average of 126 tasks, with 80 of those tasks comprising 50 percent of their time. While the time spent in duties pertaining to supervision, management, training, and administration increased markedly over that of the 5-skill level group, the job of the 7-skill level airmen is still highly technical (65 percent of total job time). This group, with an average grade of 5.6 and 156 months

average time in service, reports spending most of their time in organizational maintenance functions. Table 9 displays representative tasks performed by this group. Comparison of these tasks in Table 9 with tasks listed in Table 13 show the high degree of similarity of the technical nature of the 5-skill level and 7-skill level jobs, with high percentages of 7-skill level personnel performing basic maintenance tasks, such as cleaning soldering equipment and painting equipment.

The tasks which most clearly differentiate between the 5- and 7-skill level airmen are listed in Table 10. It is obvious that, while as previously reported, both 5- and 7-skill level groups perform technical jobs, the 7-skill level group clearly has a much larger responsibility for supervision and management in the career ladder. This increased managerial and supervisory responsibility no doubt accounts for the higher average number of tasks performed by 7-skill level members (126 for 7-skill level versus 106 for 5-skill level) and reflects a slightly broader job than that of the 5-skill level.

DAFSC 30299. Nine-skill level airmen are the primary managers in this career ladder. As in most career ladders, personnel at the 9-skill level reported performing primarily nontechnical tasks with 78 percent indicating they spent most of their job time in staff or special project functions. They performed an average of only 50 tasks (compared to an average of 126 for 7-skill levels), with 27 tasks accounting for 50 percent of their time. Nine-skill level members spent 77 percent of their time in duties relating to supervision, management, and training, and 10 percent in duties pertaining to maintenance management and administration. Predominant tasks performed by this group included drafting correspondence, analyzing inspection reports or surveys, and evaluating suggestions. Table 11 lists additional representative tasks performed by 9-skill level personnel.

Table 12 very clearly reflects that DAFSC 30299 personnel differ from 7-skill level personnel on the basis of technical task performance.

Summary

Personnel at the 5-skill level spent practically all of their job time performing technical tasks. Although 7-skill level members' activities in the supervision and management functions increased over that of the 5-skill level group, their job was still very highly technical (65 percent of their job time). Both 5- and 7-skill level airmen performed many common technical tasks (see Table 13) which reflects the high degree of homogeneity of the career ladder. Nine-skill level personnel were managers and staff members, performing predominantly supervisory, managerial, training, and administrative tasks.

TABLE 5

PERCENT MEMBERS IN CAREER LADDER JOBS BY DAFSC GROUPS

JOB GROUPS	DAFSC 30250 (N=318)	DAFSC 30270 (N=184)	DAFSC 30299 (N=23)
NONRADAR SURFACE EQUIPMENT MAINTENANCE PERSONNEL	14	13	0
SURFACE EQUIPMENT MAINTENANCE PERSONNEL	62	53	0
FIRST-LINE RADAR MAINTENANCE SUPERVISORS	1	3	0
UPPER AIR DATA AND SURFACE EQUIPMENT REPAIRMEN	2	0	0
MAINTENANCE MANAGEMENT SUPERVISORS	0	3	17
QUALITY CONTROL/INSPECTION PERSONNEL	0	3	9
CRA TACTICAL EQUIPMENT REPAIRMEN	2	1	0
CRA FIXED-INSTALLATION EQUIPMENT REPAIRMEN	7	2	0
SOLAR EQUIPMENT REPAIRMEN	1	5	0
UPPER AIR DATA EQUIPMENT DEPOT REPAIRMEN	2	3	0
MAINTENANCE SUPERVISORS	0	2	35
HQ STAFF PERSONNEL	0	2	30
PERCENT NOT GROUPED	<u>9</u>	<u>10</u>	<u>9</u>
TOTAL	100	100	100

TABLE 6

AVERAGE PERCENT TIME SPENT PERFORMING DUTIES BY DAFSC GROUPS

DUTIES	TOTAL SAMPLE (N=557)	DAFSC 30250 (N=318)	DAFSC 30270 (N=184)	DAFSC 30299 (N=23)
A ORGANIZING AND PLANNING	3	1	5	16
B DIRECTING AND IMPLEMENTING	5	2	8	15
C EVALUATING	5	2	8	32
D TRAINING	2	1	3	10
E PERFORMING GENERAL MAINTENANCE MANAGEMENT AND ADMINISTRATIVE FUNCTIONS	10	9	11	14
F PERFORMING GENERAL MAINTENANCE FUNCTIONS	25	28	22	3
G MAINTAINING NONELECTRONIC METEOROLOGICAL INSTRUMENTS	2	3	2	1
H PERFORMING OPERATIONAL CHECKS AND ADJUSTMENTS ON WIND, TEMPERATURE, VISIBILITY, AND CLOUD SETS	28	33	22	3
I PERFORMING OPERATIONAL CHECKS AND ADJUSTMENTS ON WIND, TEMPERATURE, AND CLOUD TACTICAL WEATHER EQUIPMENT	3	3	3	*
J INSPECTING, CHECKING, AND ADJUSTING UPPER AIR DATA EQUIPMENT (AN/GMD)	2	2	2	1
K PERFORMING ADJUSTMENTS AND OPERATIONAL CHECKS ON RADAR EQUIPMENT	<u>15</u>	<u>16</u>	<u>14</u>	<u>5</u>
TOTAL	100	100	100	100

* INDICATES LESS THAN .5 PERCENT

TABLE 7
 REPRESENTATIVE COMMON CORE TASKS PERFORMED
 BY DAFSC 302X0 PERSONNEL

TASKS	PERCENT OF ALL MEMBERS PERFORMING
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	87
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	86
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	86
F134 INSPECT EQUIPMENT FOR CORROSION	86
F159 SPRAY OR BRUSH PAINT EQUIPMENT	83
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	82
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	81
F133 INSPECT ELECTRICAL CABLES OR WIRING	81
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	80
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	79
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	79
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	78
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	78
F163 TREAT CORRODED ITEMS	78
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	78
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	77

AVERAGE NUMBER OF TASKS PERFORMED - 109

TABLE 8
REPRESENTATIVE TASKS PERFORMED
BY 30250 PERSONNEL

TASKS	PERCENT OF 5-SKILL LEVEL MEMBERS PERFORMING
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	93
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	92
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	92
F159 SPRAY OR BRUSH PAINT EQUIPMENT	91
F134 INSPECT EQUIPMENT FOR CORROSION	90
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	89
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	88
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	87
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	87
H197 CALIBRATE GMQ-20 WIND SYSTEMS	87
F133 INSPECT ELECTRICAL CABLES OR WIRING	87
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	86
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	86
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	85
F119 CLEAN AND TIN SOLDERING EQUIPMENT	85
H212 ISOLATE MALFUNCTIONS ON TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	81
H208 ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	81
H229 PERFORMANCE CHECK TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	79
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	77
H232 REMOVE OR INSTALL COMPONENTS IN GMQ-10 TRANSMISSOMETERS	77
H194 CALIBRATE GMQ-10 TRANSMISSOMETER SYSTEMS	77
H235 REMOVE OR INSTALL COMPONENTS OF GMQ-13 CLOUD HEIGHT SETS	76
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	75
K321 ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	69
K335 PERFORMANCE CHECK POWER SUPPLIES	68
K340 REMOVE OR REPLACE COMPONENTS IN METEOROLOGICAL RADAR SETS	67
H199 INSPECT FMN-1 RUNWAY VISUAL RANGE COMPUTING SETS	58

AVERAGE NUMBER OF TASKS PERFORMED - 106

TABLE 9
REPRESENTATIVE TASKS PERFORMED
BY 30270 PERSONNEL

TASKS	PERCENT OF 7-SKILL LEVEL MEMBERS PERFORMING
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	87
F134 INSPECT EQUIPMENT FOR CORROSION	87
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	85
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	85
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	85
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	84
F133 INSPECT ELECTRICAL CABLES OR WIRING	84
F157 SOLDER SOLID STATE DEVICES SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	84
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	83
F136 INSPECT GROUNDING SYSTEMS	82
E91 MAKE ENTRIES ON MAINTENANCE DATA RECORDS OR FORMS	81
E89 LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	80
B21 DRAFT CORRESPONDENCE	80
F159 SPRAY OR BRUSH PAINT EQUIPMENT	79
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	79
B33 SUPERVISE WEATHER EQUIPMENT SPECIALISTS (AFSC 30250)	76
H222 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	75
H202 INSPECT GMQ-13 CLOUD HEIGHT SETS	73
H233 REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	72
H196 CALIBRATE GMQ-20 WIND DIRECTION SYSTEMS	71
H208 ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	70
H209 ISOLATE MALFUNCTIONS ON GMQ-10 TRANSMISSOMETERS	67
H225 PERFORMANCE CHECK GMQ-10 TRANSMISSOMETERS	66
H222 PERFORMANCE CHECK TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	66
H212 ISOLATE MALFUNCTIONS ON TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	66
K337 PERFORMANCE CHECK TRANSMITTING SYSTEMS	65
K321 ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	64
K309 ALIGN ANTENNA SYSTEMS	62

AVERAGE NUMBER OF TASKS PERFORMED - 126

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN 5- AND 7-SKILL LEVEL PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 30250 (N=318)	DAFSC 30270 (N=184)	DIFFERENCE
C54 PREPARE APRs	8	74	+66
B33 SUPERVISE WEATHER EQUIPMENT SPECIALISTS (AFSC 30250)	16	76	+60
B21 DRAFT CORRESPONDENCE	23	80	+57
B18 BRIEF PERSONNEL ON NEW DIRECTIVES	16	70	+54
B28 SCHEDULE LEAVES OR PASSES	9	60	+51
D65 CONDUCT OJT	18	61	+43
A3 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	29	70	+41
C36 ANALYZE INSPECTION REPORTS OR SURVEYS	10	49	+39
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	6	44	+38
A13 ESTIMATE PERSONNEL REQUIREMENTS	6	42	+36
A8 ESTABLISH PERFORMANCE STANDARDS	9	42	+33
B20 DEVISE REPAIR PROCEDURES	25	56	+31
C50 INDORSE AIRMEN PERFORMANCE REPORTS (APR)	1	30	+29
C42 EVALUATE PERFORMANCE OF NEWLY INSTALLED EQUIPMENT	10	38	+28
A9 ESTABLISH PRODUCTION CONTROLS	2	28	+26

AVERAGE NUMBER OF TASKS PERFORMED BY 30250 PERSONNEL - 106

AVERAGE NUMBER OF TASKS PERFORMED BY 30270 PERSONNEL - 126

TABLE 11
REPRESENTATIVE TASKS PERFORMED
BY 30299 PERSONNEL

TASKS	PERCENT OF 9-SKILL LEVEL MEMBERS PERFORMING
B21 DRAFT CORRESPONDENCE	87
C36 ANALYZE INSPECTION REPORTS OR SURVEYS	83
C46 EVALUATE SUGGESTION FORMS (AF FORM 1000)	83
C44 EVALUATE PROPOSED CHANGES TO TECHNICAL PUBLICATIONS	70
C38 EVALUATE CHANGES TO WEATHER SYSTEMS EQUIPMENT	65
C37 ANALYZE TRENDS IN SYSTEMS MALFUNCTIONS	65
C48 EVALUATE TRAINING PROGRAMS	65
A11 ESTABLISH WORK PRIORITIES	65
A13 ESTIMATE PERSONNEL REQUIREMENTS	65
A3 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	65
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	65
A8 ESTABLISH PERFORMANCE STANDARDS	65
B18 BRIEF PERSONNEL ON NEW DIRECTIVES	65
C54 PREPARE APRs	61
E90 LOCATE TECHNICAL PUBLICATIONS IN T.O. INDEXES	61
A6 DRAFT BUDGET ESTIMATES	61
B19 COORDINATE INSTALLATION OR REPAIR ACTIVITIES WITH OTHER BASE AGENCIES	57
A16 PLAN WORKLOADS	57
C49 EVALUATE UNSATISFACTORY MATERIEL REPORTS	57
A7 DRAFT SOPs OR OTHER LOCAL DIRECTIVES	57
C50 INDORSE AIRMEN PERFORMANCE REPORTS (APR)	52
B35 SUPERVISE WEATHER EQUIPMENT TECHNICIANS (AFSC 30270)	52

AVERAGE NUMBER OF TASKS PERFORMED - 50

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN 7- AND 9-SKILL LEVEL PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 30270 (N=184)	DAFSC 30299 (N=23)	DIFFERENCE
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	85	9	+76
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	79	4	+75
H217 MAKE ADJUSTMENTS TO GMQ-20 WIND MEASURING SETS	74	0	+74
H233 REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	72	0	+72
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	78	9	+69
H192 ADJUST TMQ-11 TEMPERATURE-DEWPOINT MEASURING SET UNITS	67	0	+67
F152 REPAIR OR REPLACE ELECTRICAL WIRES OR CABLES	69	4	+65
F154 SOLDER CIRCUIT BOARDS	72	9	+63
H232 REMOVE OR INSTALL COMPONENTS IN GMQ-10 TRANSMISSOMETERS	62	0	+62
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	87	26	+61
B33 SUPERVISE WEATHER EQUIPMENT SPECIALISTS (AFSC 30250)	75	17	+58
K311 ALIGN INDICATING SYSTEMS	63	9	+54
K321 ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	64	13	+51
F127 FABRICATE ELECTRICAL CABLES	61	13	+48
C46 EVALUATE SUGGESTION FORMS (AF FORM 1000)	31	83	-52

AVERAGE NUMBER OF TASKS PERFORMED BY 30270 PERSONNEL - 126

AVERAGE NUMBER OF TASKS PERFORMED BY 30299 PERSONNEL - 50

TABLE 13

COMMON TECHNICAL TASKS PERFORMED ACROSS SPECIFIC DAFSC GROUPS
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC	DAFSC
		30250 (N=319)	30270 (N=184)
E86	IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	75	85
E89	LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	70	80
F119	CLEAN AND TIN SOLDERING EQUIPMENT	85	80
F120	CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	89	79
F126	DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	87	83
F134	INSPECT EQUIPMENT FOR CORROSION	90	87
F157	SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	85	84
F159	SPRAY OR BRUSH PAINT EQUIPMENT	91	79
F162	TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	92	87
F163	TREAT CORRODED ITEMS	84	76
G168	INSPECT OPERATION OF BAROGRAPHS	65	63
H188	ADJUST GMQ-20 WIND MEASURING SET UNITS	88	72
H202	INSPECT GMQ-13 CLOUD HEIGHT SETS	79	73
H208	ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	81	70
H210	ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	87	75
H227	PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	86	75
H233	REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	83	72
I254	INSPECT TMQ-15 WIND MEASURING SYSTEMS	32	46
K310	ALIGN AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	68	63
K320	DIAGNOSE SYSTEM TROUBLES FROM CRT INDICATOR DISPLAYS INFORMATION	64	63
K321	ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	69	64
K332	PERFORMANCE CHECK AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	65	65
K335	PERFORMANCE CHECK POWER SUPPLIES	68	65
K340	REMOVE OR REPLACE COMPONENTS IN METEOROLOGICAL RADAR SETS	67	57

ANALYSIS OF AFMS GROUPS

Utilization patterns for survey respondents in different Active Federal Military Service (AFMS) groups were reviewed to determine if there were differences in tasks performed. As is typical in most career ladders, as time in service increased, there was generally a corresponding increase in performance of duties involving supervisory and managerial tasks. Conversely, as service time increased, performance of duties in the technical areas decreased (see Table 14). Through the fourth enlistment (145-192 months), the job remained highly technical, with 65 percent of the job time spent on technical duties. Even in the fifth enlistment (193-240 months), airmen were still spending 50 percent of their job time in technical duties. Not until the sixth enlistment (241+ months) did a decided change occur, with percent time spent on duties shifting to predominately supervisory, managerial, training, and administrative functions (72 percent).

First Enlistment Personnel

First enlistment personnel (1-48 months) performed essentially the same full range of technical tasks that were performed by the second (46-96 months) enlistment group. Only in the third enlistment did the duties begin to move away from the full-range technical job performed by first-term personnel; this due to a beginning rise in supervisory tasks performed. Table 15 lists representative tasks performed by first enlistment airmen.

Conventional weather equipment maintained by five percent or more of first enlistment (1-48 months) personnel is listed in Table 16, while test equipment used by at least ten percent of the first enlistment group is provided in Table 17. Table 18 provides information on solar weather observation equipment maintained.

Readers are again reminded that not all weather stations or facilities utilize the same equipment in the performance of their day-to-day observation and forecasting duties. While some equipment items are common (i.e., the GMQ-20 wind measuring set) to most stations, others (such as the FPS-77 radar set) are a function of geography, usual weather conditions, and proximity of similar equipment possessed by other agencies in the local area.

Job Satisfaction Data

Table 19 presents data reflecting the job interest, perceived utilization of talent and training, and reenlistment intentions of selected AFMS groups. Comparisons are also made between the 302X0 AFMS groups and comparative samples of all other Mission Equipment Maintenance career ladders surveyed in 1979.

Comparisons of the groups indicate that, on the whole, first enlistment personnel (1-48 months) of the 302X0 career ladder were very similar to the comparative sample in their job satisfaction responses. Even though all other job satisfaction indicators were above average, only 28 percent of the 302X0 sample first-term airmen indicated they will, or probably will, reenlist. This

is somewhat below the percentage of the comparative sample group and is cause for concern about the impact this could have on the career ladder (see further discussion in the IMPLICATIONS section).

Review of the remaining AFMS groups indicates that as time in service increases job satisfaction indices rise also. While 302X0 career ladder personnel indicators are higher than the comparative groups for job interest and perceived utilization of talent and training, reenlistment intentions continued to trail behind the comparative sample groups.

TABLE 14

PERCENT TIME SPENT PERFORMING DUTIES BY AFMS GROUPS

DUTIES	MONTHS AFMS					
	1-48 (N=212)	49-96 (N=133)	97-144 (N=69)	145-192 (N=68)	193-240 (N=56)	241+ (N=19)
A ORGANIZING AND PLANNING	1	2	4	5	9	13
B DIRECTING AND IMPLEMENTING	1	3	6	8	11	13
C EVALUATING	1	3	5	7	14	30
D TRAINING	1	3	3	3	5	4
E PERFORMING GENERAL MAINTENANCE MANAGEMENT AND ADMINISTRATIVE FUNCTIONS	8	10	11	12	11	12
F PERFORMING GENERAL MAINTENANCE FUNCTIONS	30	26	25	21	17	7
G MAINTAINING NONELECTRONIC METEOROLOGICAL INSTRUMENTS	3	3	2	2	2	1
H PERFORMING OPERATIONAL CHECKS AND ADJUSTMENTS ON WIND, TEMPERATURE, VISIBILITY, AND CLOUD SETS	33	31	26	24	15	9
I PERFORMING OPERATIONAL CHECKS AND ADJUSTMENTS ON WIND, TEMPERATURE, AND CLOUD TACTICAL WEATHER EQUIPMENT	3	3	3	3	2	2
J INSPECTING, CHECKING, AND ADJUSTING UPPER AIR DATA EQUIPMENT (AN/GMD)	2	2	1	2	2	2
K PERFORMING ADJUSTMENTS AND OPERATIONAL CHECKS ON RADAR EQUIPMENT	17	14	14	13	12	7
TOTAL	100	100	100	100	100	100

TABLE 15

REPRESENTATIVE TASKS PERFORMED BY FIRST ENLISTMENT PERSONNEL
(1-48 MONTHS AFMS)

TASKS	PERCENT MEMBERS PERFORMING (N=212)
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	92
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	91
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	89
F159 SPRAY OR BRUSH PAINT EQUIPMENT	89
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	86
H196 CALIBRATE GMQ-20 WIND DIRECTION SYSTEMS	85
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	85
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	85
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	84
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	84
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	83
F119 CLEAN AND TIN SOLDERING EQUIPMENT	83
F133 INSPECT ELECTRICAL CABLES OR WIRING	83
F163 TREAT CORRODED ITEMS	82
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	82
H233 REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	80
H203 INSPECT GMQ-20 WIND MEASURING SYSTEMS	78
F143 LUBRICATE EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	78
H187 ADJUST GMQ-13 CATHODE RAY TUBE (CRT) BRIGHTNESS OR FOCUS CONTROLS	78
H212 ISOLATE MALFUNCTIONS ON TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	78
H226 PERFORMANCE CHECK GMQ-13 CLOUD HEIGHT SETS	78
H216 MAKE ADJUSTMENTS TO GMQ-13 CLOUD HEIGHT SETS	76
H208 ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	77
F145 MEASURE OR VERIFY LINE VOLTAGES	77
H185 ADJUST GMQ-13 CLOUD HEIGHT SET UNITS	76
H229 PERFORMANCE CHECK TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	76
H183 ADJUST GMQ-10 TRANSMISSIOMETER PROJECTOR LAMP VOLTAGES	76
H192 ADJUST TMQ-11 TEMPERATURE-DEWPOINT MEASURING SET UNITS	75
H202 INSPECT GMQ-13 CLOUD HEIGHT SETS	74

AVERAGE NUMBER OF TASKS PERFORMED - 98

TABLE 16

CONVENTIONAL WEATHER EQUIPMENT MAINTAINED BY FIVE PERCENT
OR MORE OF FIRST ENLISTMENT PERSONNEL
(1-48 MONTHS AFMS)

EQUIPMENT MAINTAINED		PERCENT MEMBERS MAINTAINING (N=212)
GMQ-20	WIND MEASURING SET	89
TMQ-11	MEASURING SET	84
GMQ-13	CLOUD HEIGHT MEASURING SET	84
GMQ-10	TRANSMISSOMETER	81
ML-512	MERCURIAL BAROMETER	78
FPS-77	RADAR SET	76
ML-102	ANEROID BAROMETER	76
ML-563	BAROGRAPH	64
FMN-1	RUNWAY VISUAL RANGE COMPUTING SET	62
ML-17	RAIN GAUGE	61
GMQ-11	WIND MEASURING SET	44
TMQ-15	WIND MEASURING SET	37
ML-331	ANEROID BAROMETER	23
TMQ-22	METEOROLOGICAL MEASURING SET	20
2279	SYSTEM ACTIVE RUNWAY INDICATOR	18
ML-474	THEODOLITE	17
TMQ-20	MEASURING SET	15
ML-110	TELEPHONE SET	14
TMQ-14	CLOUD HEIGHT MEASURING SET	11
ML-330	MERCURIAL BAROMETER	11
GMD-2	RAWIN SET	10
TMQ-5	RADIOSONDE RECORDER	9
GMM-3	RADIOSONDE BASELINE CHECK SET	9
RVR-400	RUNWAY VISUAL RANGE COMPUTING SET	9
ML-121	CEILING LIGHT PROJECTOR	8
ML-332	ANEROID BAROMETER	7
CPS-9	RADAR SET	6
GMM-1	RADIOSONDE BASELINE CHECK SET	6
ML-333	ANEROID BAROMETER	5
FPS-103	RADAR SET	5
GMD-1	RAWIN SET	5

TABLE 17

TEST EQUIPMENT USED BY 10 PERCENT OR MORE
OF FIRST ENLISTMENT PERSONNEL
(1-48 MONTHS AFMS)

TEST EQUIPMENT USED	PERCENT MEMBERS USING (N=212)
OSCILLOSCOPE (DUAL TRACE)	93
VOLT-OHMMETER	89
SIGNAL GENERATOR	75
OHMMETER	75
ELECTRONIC TUBE TEST SET	75
DUMMY LOAD	67
PORTABLE VARIAC	63
CLAMPON AMMETER	53
RF DETECTOR	39
OSCILLOSCOPE (SINGLE TRACE)	39
CAPACITOR TEST SET	36
PULSE GENERATOR	36
TACHOMETER AND GENERATOR TEST SET	34
FREQUENCY METER	32
PORTABLE AMMETER	29
RF BOLOMETER	26
DIRECTIONAL COUPLER	26
ELECTRONIC FREQUENCY COUNTER	26
VARIABLE ATTENUATOR	26
RESISTANCE BRIDGE	23
POWER SUPPLY	22
CALORIMETRIC POWER METER	20
AUDIO OSCILLATOR	19
RF POWER TEST SET	19
ATTENUATOR (50-3 OR 50-5)	18
NOISE GENERATOR	18
STANDING WAVE RATIO INDICATOR	18
TERMINATION WAVE GUIDE	17
TUNED CAVITY	17
ELECTRONIC DIGITAL COUNTER	14
TRANSISTOR TEST SET	13
DIFFERENTIAL VOLTMETER	11
DECADE RESISTOR	10
STROBOSCOPE	10

TABLE 18

SOLAR WEATHER OBSERVATION EQUIPMENT MAINTAINED
(PERCENT MEMBERS MAINTAINING)

EQUIPMENT MAINTAINED	AFMS GROUPS		
	1-48 MOS (N=212)	49-96 MOS (N=133)	97+ MOS (N=212)
AIR CONDITIONER	3	1	1
CAMERA (35MM)	1	2	6
CLOSED CIRCUIT TELEVISION	1	2	5
CONVERTER (60 HZ)	1	2	1
CONVERTER (400 HZ)	2	1	1
FILM ENLARGER	0	0	1
FILM PROCESSOR	0	0	1
MOTION ANALYZER	0	0	1
RADIO RECEIVER	1	2	4
SEAL PRESS FILM MOUNTER	0	0	0
SILVER RECOVERY UNIT	0	0	0
SOLAR OPTICAL TELESCOPE (W-120)	0	1	2
SOLAR RADIO TELESCOPE	0	2	4
STRIP CHART RECORDER	5	4	4
WATER CHILLER	1	0	1

TABLE 19

COMPARISON OF JOB SATISFACTION INDICES BY AFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS AFMS		49-96 MONTHS AFMS		97+ MONTHS AFMS	
	302X0 (N=212)	COMPARATIVE SAMPLE* (N=6,124)	302X0 (N=133)	COMPARATIVE SAMPLE* (N=2,787)	302X0 (N=212)	COMPARATIVE SAMPLE* (N=4,643)
<u>EXPRESSED JOB INTEREST:</u>						
DULL	25	19	15	19	10	12
SO-SO	22	23	16	22	17	14
INTERESTING	53	56	69	57	73	73
NOT REPORTED	0	2	0	2	0	1
<u>PERCEIVED UTILIZATION OF TALENTS:</u>						
LITTLE OR NOT AT ALL	35	34	26	31	16	19
FAIRLY WELL TO PERFECTLY	65	65	74	69	84	80
NOT REPORTED	0	1	0	0	0	1
<u>PERCEIVED UTILIZATION OF TRAINING:</u>						
LITTLE OR NOT AT ALL	31	30	23	26	19	22
FAIRLY WELL TO PERFECTLY	69	70	77	73	81	77
NOT REPORTED	0	0	0	1	0	1
<u>REENLISTMENT INTENTIONS:</u>						
NO, OR PROBABLY NO	72	64	52	47	32	29
YES, OR PROBABLY YES	28	34	47	51	68	69
NOT REPORTED	0	2	1	2	0	2

* COMPARATIVE SAMPLE OF MISSION EQUIPMENT MAINTENANCE CAREER LADDERS SURVEYED IN 1979
(INCLUDES AFSCs 30XXX, 31XXX, 32XXX, 34XXX, 36XXX, 40XXX, 42XXX, 43XXX, 44XXX, AND 46XXX)

ANALYSIS OF CONUS VERSUS OVERSEAS GROUPS

Comparisons were made of the tasks performed and background data for the 249 DAFSC 30250 personnel assigned to the Continental United States (CONUS) versus the 70 in the sample assigned to overseas locations. While CONUS personnel performed an average of 106 tasks, with 61 those tasks encompassing 50 percent of their job time, overseas members spent 50 percent of their job time on 55 of the 105 average tasks performed. Tasks representative of the commonality of the two groups include replacing plug-in or snap-in components, such as batteries, fuses, or vacuum tubes; painting equipment; inspecting equipment for corrosion; and isolating malfunctions of GMQ-20 wind measuring sets.

Table 20 lists tasks which best differentiate between CONUS and overseas groups. One difference noted between the groups was the higher percentage of overseas personnel performing tasks related to tactical (portable/mobile) weather equipment, such as the TMQ-15 wind measuring set and the TMQ-22 meteorological measuring set. On the other hand, CONUS members report a higher percentage of their group performing tasks involving fixed station equipment, such as the FPS-77 radar set. Table 21 displays additional comparisons of equipment maintained by these two groups.

Comparison of background data indicated that overseas personnel typically averaged more time in the career field (63 months versus only 40 months for CONUS) and more time in the service (74 months versus 49 months for CONUS). As would be expected of the group with more time in job and in service, overseas personnel reported slightly higher indications of job satisfaction through the normal indices of job interest and utilization of training and talent. Time in service factors are also evident in the higher probable reenlistment intentions for the overseas group (53 percent versus 33 percent for the CONUS members).

TABLE 20

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 30250 CONUS AND OVERSEAS PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	CONUS (N=249)	OVERSEAS (N=70)	DIFFERENCE
I254 INSPECT TMQ-15 WIND MEASURING SYSTEMS	27	53	-26
I265 PERFORMANCE CHECK TMQ-15 WIND MEASURING SETS	26	51	-25
I258 ISOLATE MALFUNCTIONS ON TMQ-15 WIND MEASURING SETS	27	50	-23
E102 PREPARE REQUISITIONS FOR PUBLICATIONS, SUPPLIES, OR EQUIPMENT	32	51	-19
I267 PERFORMANCE CHECK TMQ-22 METEOROLOGICAL MEASURING SETS	13	29	-16
I252 CALIBRATE TMQ-22 METEOROLOGICAL MEASURING SETS	12	26	-14
H195 CALIBRATE GMQ-11 WIND DIRECTION SYSTEMS	38	51	-13
K340 REMOVE OR REPLACE COMPONENTS IN METEOROLOGICAL RADAR SETS	73	44	+29
K309 ALIGN ANTENNA SYSTEMS	73	49	+24
K308 ADJUST KLYSTRON TUBE VOLTAGES	66	47	+19
K334 PERFORMANCE CHECK POWER MONITORING SYSTEMS	64	46	+18
F154 SOLDER CIRCUIT BOARDS	73	57	+16
F160 TAG OR LABEL EQUIPMENT	75	60	+15
H213 MAKE ADJUSTMENTS TO FMN-1 RUNWAY VISUAL RANGE COMPUTING SETS	57	44	+13

AVERAGE NUMBER OF TASKS PERFORMED BY 30250 CONUS PERSONNEL - 106
 AVERAGE NUMBER OF TASKS PERFORMED BY 30250 OVERSEAS PERSONNEL - 105

TABLE 21

COMPARISON OF CONVENTIONAL WEATHER EQUIPMENT MAINTAINED
BY 20 PERCENT OR MORE DAFSC 30250 CONUS AND OVERSEAS PERSONNEL
(PERCENT MEMBERS PERFORMING)

EQUIPMENT MAINTAINED		CONUS MEMBERS (N=249)	OVERSEAS MEMBERS (N=70)
GMQ-20	WIND MEASURING SET	90	94
GMQ-13	CLOUD HEIGHT MEASURING SET	86	94
GMQ-10	TRANSMISSOMETER	82	91
ML-102	ANEROID BAROMETER	78	90
TMQ-11	MEASURING SET	86	89
ML-512	MERCURIAL BAROMETER	81	83
FPS-77	RADAR SET	80	53
ML-17	RAIN GAUGE	63	79
ML-563	BAROGRAPH	68	71
FMN-1	RUNWAY VISUAL RANGE COMPUTING SET	65	56
TMQ-15	WIND MEASURING SET	38	57
GMQ-11	WIND MEASURING SET	43	54
TMQ-22	METEOROLOGICAL MEASURING SET	19	37
ML-474	DIRECTIONAL THEODOLITE	14	27
ML-121	CEILING LIGHT PROJECTOR	5	27
ML-331	ANEROID BAROMETER	21	17

ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data was compared to the AFR 39-1 Specialty Descriptions for the Weather Equipment Specialist, dated 1 June 1977, Weather Equipment Technician, dated 31 October 1978, and the Weather Equipment Superintendent, dated 30 April 1979. These descriptions are intended to give a broad overview of the duties and tasks performed in each skill level of the specialty. While the specialty description for the superintendent is extremely accurate in its portrayal of the almost total supervisory and managerial nature of 9-skill level job, descriptions for the specialist (AFSC 30230/30250) and technician (AFSC 30270) may require a review of the Duties and Responsibilities section for possible adjustments to more accurately reflect the nature of the job as indicated by the survey data.

The Duties and Responsibilities section of the 7-skill level description describes a job which is almost entirely supervisory and managerial in nature. However, as pointed out in the ANALYSIS OF DAFSC GROUPS section, 65 percent of the 7-skill level technician's job time is spent on duties involving performance of technical type tasks. Most descriptive of this involvement in technical work is the high percentage of members performing such basic maintenance tasks as tightening loose nuts, bolts, or screws, cleaning electrical or mechanical components, soldering components, and painting equipment (see Table 9 in ANALYSIS OF DAFSC GROUPS section). Removing or installing components and isolating malfunctions on various types of equipment is also performed by 60 to 80 percent of this skill level. One other area that may warrant review is that portion of paragraph 2a relating to equipment installation. Only 14 of the 30270 respondents (eight percent) identified themselves as working in engineering and installation (E&I) positions. While 30 people in the total survey sample reported that they were E&I personnel, no such job group was identified in the career ladder structure analysis. This would seem to indicate that E&I is not a significant part of most technicians' jobs. Representative tasks for this function are listed in Table 22 and may be helpful in evaluating the desirability of retaining this reference in the specialty description.

The 3- and 5-skill level specialty description also devotes a paragraph (2a) to installation and removal of meteorological equipment. Only five percent (16 airmen) of DAFSC 30230/30250 respondents identified themselves with positions in E&I functions. Although this skill level group does perform alignment, calibration, and operational tests, the actual removal and installation of equipment does not appear to be a major part of the overall job (see percentages for representative tasks in Table 22). Another segment of this specialty description requiring review is paragraph 2c, which appears to devote an inordinate amount of attention to supervisory and managerial functions. While this skill level group does perform some supervisory tasks (Table 23 displays percentages of members performing representative tasks and compares them with 7-skill level respondents), only seven percent of their job time is spent in duties generally associated with supervision, management, and training, with an additional nine percent allocated to maintenance management and administrative duties. The relatively limited performance of 3-skill and 5-skill level personnel in this area may warrant a modification of the coverage in the next rewrite of the specialty description.

TABLE 22

DATA RELATING TO SAMPLE EQUIPMENT INSTALLATION/REMOVAL TASKS
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 30250 (N=318)	DAFSC 30270 (N=184)	TOTAL SAMPLE 302X0 (N=557)
A2 CONDUCT SITE SURVEYS FOR NEW EQUIPMENT	4	24	11
A14 PLAN INSTALLATION OF NEW EQUIPMENT	3	24	12
C42 EVALUATE PERFORMANCE OF NEWLY INSTALLED EQUIPMENT	10	38	20
E82 ACCEPT EQUIPMENT FACILITY INSTALLATIONS	3	27	11
G170 INSTALL OR MODIFY ML-2 OR ML-512 BAROMETERS	18	17	16
G171 INSTALL OR MODIFY ML-330 SERIES BAROMETERS	3	4	3
G174 REMOVE OR INSTALL BAROGRAPHS	10	15	11
G175 REMOVE OR INSTALL INSTRUMENT SHELTERS OR CASES	6	5	6
G176 REMOVE OR INSTALL ML-17 RAIN GAUGES	17	20	17
G177 REMOVE OR INSTALL ML-47 THEODOLITE	2	3	2
G178 REMOVE OR INSTALL ML-474 THEODOLITE	6	7	6
G179 REMOVE OR INSTALL ML-48 BAROMETER CASES OR MOUNTS	5	8	6
H230 PREPARE FIELD ELEVATION CHARTS FOR DUAL EQUIPMENT	2	3	2
H236 REMOVE OR INSTALL FMN-1 SYSTEMS	10	15	12
H237 REMOVE OR INSTALL GMQ-10 TRANSMISSOMETERS	13	16	13
H238 REMOVE OR INSTALL GMQ-11 SYSTEMS	7	12	8
H239 REMOVE OR INSTALL GMQ-13 SYSTEMS	12	17	12
H240 REMOVE OR INSTALL GMQ-20 SYSTEMS	17	17	16
H241 REMOVE OR INSTALL RVR-400 SYSTEMS	3	4	3
H242 REMOVE OR INSTALL TMQ-11 SYSTEMS	11	16	12
J299 REMOVE OR INSTALL GMM-1 BASE LINE CHECK SETS	4	5	4
J300 REMOVE OR INSTALL GMM-3 BASE LINE CHECK SETS	3	5	4
J301 REMOVE OR INSTALL TMQ-5 METEROLOGICAL DATA RECORDERS	5	6	5
K339 REMOVE OR INSTALL RADAR SETS	8	12	8

TABLE 23

DATA RELATING TO COMMON SUPERVISORY/MANAGERIAL TASKS
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 30250 (N=318)	DAFSC 30270 (N=184)
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	6	45
A3 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	29	70
A8 ESTABLISH PERFORMANCE STANDARDS	9	42
A11 ESTABLISH WORK PRIORITIES	25	65
A13 ESTIMATE PERSONNEL REQUIREMENTS	6	42
A16 PLAN WORKLOADS	18	60
B18 BRIEF PERSONNEL ON NEW DIRECTIVES	15	70
B28 SCHEDULE LEAVES OR PASSES	9	60
B30 SUPERVISE APPRENTICE WEATHER EQUIPMENT SPECIALISTS (AFSC 30230)	19	38
B33 SUPERVISE APPRENTICE WEATHER EQUIPMENT SPECIALISTS (AFSC 30250)	16	76
C40 EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION	4	38
C41 EVALUATE INSTALLATION WEATHER SYSTEMS OPERATIONS	8	30
C54 PREPARE APRs	8	74
D60 ASSIGN PERSONNEL TO OJT PHASES OR PROGRAMS	4	29
D65 CONDUCT OJT	18	61
D75 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	11	55
D80 SCHEDULE OJT	3	32
E93 PREPARE ACTIVITY REPORTS	7	23
E96 PREPARE OR UPDATE MAINTENANCE RECORD OR REPORT FILES	12	40
E98 PREPARE OR UPDATE RECORDS ON ACCOUNTABLE EQUIPMENT	13	37
E101 PREPARE PERIODIC MAINTENANCE SUMMARIES	4	14

TRAINING ANALYSIS

Occupational survey data is one of the many sources of information which can be used to assist in the development of a training program which is relevant to the needs of personnel working in their first assignment within a career ladder. Factors which may be used in evaluating training are the percent of first job (1-24 months AFMS) or first enlistment (1-48 months AFMS) members performing tasks, along with training emphasis and task difficulty ratings previously explained in the Survey Methodology section. These factors were used in evaluating the Specialty Training Standard (STS) and the Plan of Instruction (POI) for the 302X0 career ladder. Technical School personnel from the Chanute Technical Training Center, Chanute AFB, Illinois, matched inventory tasks to appropriate sections of the STS and POI for course 3ABR30230-003. It was this matching upon which comparisons were based. A complete computer listing reflecting the percent members performing, training emphasis ratings, and task difficulty ratings for each task statement, along with STS and POI matching has been forwarded to the technical school for their use in any further detailed review of training documents. A summary of that information is described below.

Training Emphasis

Table 24 lists the top 30 tasks which the raters indicated as requiring the highest training emphasis. These tasks are generally performed by the majority of 302X0 incumbents (total sample percentages are included for comparison) and none of the tasks listed has less than 30 percent members performing. This would indicate that all are well suited for some form of common structured training unless other factors override such consideration. Table 25 presents tasks which were rated lowest in training emphasis. With one exception, very low percentages of incumbents perform these tasks, indicating that such tasks would not normally merit inclusion in a formal training program unless they were somehow critical in nature.

Task Difficulty

Of the 342 tasks in the inventory, 163 were rated above average in difficulty (5.00 or higher). The majority of those tasks dealt with supervision, training, isolating malfunctions, aligning or calibrating certain equipment, and radar functions. Tasks rated below average in difficulty were predominately associated with inspecting sets or systems, performance checking equipment, cleaning equipment or tools, and administrative procedures. Tables 26 and 27 present the 15 tasks rated most and least difficult respectively, while Table 28 lists tasks rated average in difficulty.

Specialty Training Standard (STS)

A comprehensive review of the STS 302X0, dated October 1978, was made, comparing STS items to survey data. STS paragraphs containing general information or subject matter knowledge proficiency requirements were not evaluated. Generally, the STS provides good, comprehensive coverage of

the job performed by personnel in the field, with survey data supporting significant STS paragraphs or subparagraphs. Only a limited number of possibly significant tasks were not matched to specific references (see Table 29). These tasks should be reviewed by subject matter and training specialists to determine whether they merit inclusion in the STS. Computer printouts reflecting the match between STS items and survey sample data have been furnished to the technical school for this purpose.

Plan of Instruction (POI)

Based on previously mentioned assistance from technical school subject matter specialists in matching inventory tasks to the 3ABR30230-003 POI, dated 18 September 1979, a computer product was generated displaying the results of that matching process. Information furnished for consideration includes: training emphasis and task difficulty ratings; percent members performing data for the total sample, and the 3-, 5-, and 7-skill levels; and percent members performing data for first job (1-24 months) and first enlistment (1-48 months) personnel.

Overall, the POI blocks reflect tasks performed by substantial percentages of first job personnel and almost all of the tasks were rated above average on the TE scale. However, Block I, Unit 3 (Barometry) and Block VI, Unit 2 (Supervision and Safety Hazard Reporting), involve tasks where low percentages of members perform the tasks with the majority of the tasks receiving below average TE and TD ratings, (see Table 50 for representative tasks). These two units may warrant review by training and subject matter specialists to determine if changes or adjustments may be necessary.

TABLE 24

TASKS RATED HIGHEST IN TRAINING EMPHASIS FOR 302X0 PERSONNEL

TASKS	TRAINING EMPHASIS	TASK DIFFICULTY	PERCENT MEMBERS PERFORMING		
			FIRST JOB	FIRST ENLISTMENT	TOTAL SAMPLE 302X0
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	7.86	6.17	88	83	80
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	7.82	5.59	85	84	82
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	7.78	5.36	95	89	87
K320 DIAGNOSE SYSTEM TROUBLES FROM CRT INDICATOR DISPLAYS INFORMATION	7.68	6.30	70	66	61
F154 SOLDER CIRCUIT BOARDS	7.38	5.97	75	69	67
K319 COMPUTE RECEIVER NOISE FIGURES	7.28	5.37	75	69	62
H208 ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	7.24	5.48	85	77	73
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	7.20	4.28	73	72	78
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	7.20	4.80	90	85	79
H212 ISOLATE MALFUNCTIONS ON TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	7.18	5.46	78	78	72
K312 ALIGN POWER MONITORING SYSTEMS	7.12	5.82	48	55	53
K310 ALIGN AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	7.04	6.47	75	71	63
K313 ALIGN RECEIVING SYSTEMS	7.02	7.09	68	68	62
K332 PERFORMANCE CHECK AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	7.00	5.44	78	68	63
K335 PERFORMANCE CHECK POWER SUPPLIES	7.00	4.75	83	71	65
K330 MEASURE TRANSMITTER OUTPUT POWER	6.98	5.15	65	63	58
K336 PERFORMANCE CHECK RECEIVING SYSTEMS	6.98	5.36	80	69	63
K309 ALIGN ANTENNA SYSTEMS	6.96	6.78	73	69	63
K331 PERFORMANCE CHECK ANTENNA SYSTEMS	6.96	5.64	73	67	63
K334 PERFORMANCE CHECK POWER MONITORING SYSTEMS	6.96	5.19	70	61	59
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWN (IPBS)	6.94	3.72	80	73	77
H209 ISOLATE MALFUNCTIONS ON GMQ-10 TRANSMISSOMETERS	6.94	5.65	75	72	69
F155 SOLDER NON-SOLID STATE CIRCUITS COMPONENTS	6.92	4.84	85	84	79
K326 MEASURE RADAR SYSTEMS SENSITIVITY	6.88	6.41	50	47	48
K333 PERFORMANCE CHECK INDICATING SYSTEMS	6.88	5.32	73	68	62
K314 ALIGN STORM DETECTION RADARS	6.82	7.58	65	64	59
E119 CLEAN AND TIN SOLDERING EQUIPMENT	6.80	3.33	90	83	79
H197 CALIBRATE GMQ-20 WIND SYSTEMS	6.80	4.63	83	84	76
K311 ALIGN INDICATING SYSTEMS	6.80	6.22	70	69	62
H216 MAKE ADJUSTMENTS TO GMQ-13 CLOUD HEIGHT SETS	6.76	5.00	85	78	73

TABLE 25

TASKS RATED LOWEST IN TRAINING EMPHASIS FOR 302X0 PERSONNEL*

TASKS	TRAINING EMPHASIS	TASK DIFFICULTY	PERCENT MEMBERS PERFORMING		
			FIRST JOB	FIRST ENLISTMENT	TOTAL SAMPLE 302X0
J300 REMOVE OR INSTALL GMM-3 BASE LINE CHECK SETS	1.46	4.74	0	4	5
F138 INSTALL CABLE ROUTING DEVICES	1.44	3.94	10	12	15
H229 PERFORMANCE CHECK TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	1.42	4.52	78	76	71
J286 INSPECT TMQ-5 METEOROLOGICAL DATA RECORDERS	1.42	4.89	5	8	10
J293 MECHANICALLY ADJUST RADIOSONDE RECORDING SYSTEMS, GMD-1, GMD-2, OR GMD-4	1.38	5.90	5	8	8
J280 ASSEMBLE GMD-4 RADIOSONDE EQUIPMENT	1.30	5.72	0	1	1
J301 REMOVE OR INSTALL TMQ-5 METEOROLOGICAL DATA RECORDERS	1.30	4.77	0	5	5
J273 ADJUST BASE LINE CHECK SETS ON GMM-3	1.28	4.21	0	6	8
J277 ADJUST TMQ-5 METEOROLOGICAL DATA RECORDERS	1.26	5.31	5	8	9
F132 HEAT TREAT NEWLY PAINTED EQUIPMENT	1.24	4.23	18	13	9
J291 ISOLATE MALFUNCTIONS TO BASE LINE CHECK SETS ON GMM-1	1.24	5.13	0	5	5
J306 REMOVE OR REPLACE COMPONENTS ON GMM-1 BASE LINE CHECK SETS	1.24	4.68	0	4	4
J275 ADJUST GMD-2 RADIOSONDE EQUIPMENT UNITS	1.22	5.78	5	9	10
J284 INSPECT GMM-1 BASE LINE CHECK SETS	1.20	4.14	0	5	5
J295 PERFORMANCE CHECK GMD-2 RADIOSONDE EQUIPMENT	1.20	4.89	5	8	10
J272 ADJUST BASE LINE CHECK SETS ON GMM-1	1.18	4.33	0	5	5
J290 ISOLATE MALFUNCTIONS ON TMQ-5 METEOROLOGICAL DATA RECORDERS	1.18	5.97	5	8	9
J305 REMOVE OR REPLACE COMPONENTS IN TMQ-5 METEOROLOGICAL DATA RECORDERS	1.16	5.39	5	8	10
J288 ISOLATE MALFUNCTIONS ON GMD-2 EQUIPMENT	1.12	6.09	5	9	10
J299 REMOVE OR INSTALL GMM-1 BASE LINE CHECK SETS	1.12	3.95	0	5	4
F151 REPAIR CATEGORY III TEST EQUIPMENT	1.10	5.25	0	5	6
J298 PERFORMANCE CHECK TMQ-5 METEOROLOGICAL DATA RECORDERS	1.10	4.68	5	8	10
I271 REMOVE OR INSTALL COMPONENTS ON TMQ-22 METEOROLOGICAL MEASURING SETS	1.08	5.10	8	11	17
J296 PERFORMANCE CHECK GMM-3 BASE LINE CHECK SETS	1.08	4.26	0	2	4
J283 INSPECT GMD-4 RADIOSONDE EQUIPMENT UNITS	1.06	5.24	0	0	1
J282 INSPECT GMD-2 RADIOSONDE EQUIPMENT UNITS	1.02	4.65	5	8	10
J303 REMOVE OR REPLACE COMPONENTS IN GMD-2 RADIOSONDE EQUIPMENT	1.02	5.47	5	8	9
J279 ASSEMBLE GMD-2 RADIOSONDE EQUIPMENT	1.00	5.51	0	5	7
E107 TRANSCRIBE OPERATIONAL INFORMATION ONTO COMPUTER DATA CARD FORMS	.88	5.23	3	2	2
E92 OPERATE KEYPUNCH MACHINES	.58	4.85	3	3	3

* EXCLUDING NORMAL SUPERVISORY, MANAGERIAL, OR TRAINING TASKS

TABLE 26

THE 15 TASKS RATED AS MOST DIFFICULT BY 302X0 PERSONNEL

TASKS	TASK DIFFICULTY RATING	PERCENT MEMBERS PERFORMING (N=557)
K339 REMOVE OR INSTALL RADAR SETS	8.04	8
H211 ISOLATE MALFUNCTIONS ON RVR-400 RUNWAY VISUAL RANGE COMPUTING SETS	7.78	9
K314 ALIGN STORM DETECTION RADARS	7.58	59
H206 ISOLATE MALFUNCTIONS ON FMN-1 RUNWAY COMPUTING SETS	7.41	51
K313 ALIGN RECEIVING SYSTEMS	7.09	62
D67 DEVELOP COURSES OF TRAINING	7.06	6
K321 ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	7.00	64
J289 ISOLATE MALFUNCTIONS ON GMD-4 EQUIPMENT	6.99	1
D70 DEVELOP OR REVISE RESIDENT COURSE TRAINING MATERIALS	6.92	3
D64 CONDUCT IN-SERVICE TRAINING FOR CLASSROOM INSTRUCTORS	6.86	1
H241 REMOVE OR INSTALL RVR-400 SYSTEMS	6.79	3
K309 ALIGN ANTENNA SYSTEMS	6.78	63
D72 DRAFT COURSE CONTROL DOCUMENTS, SUCH AS POIs, STSs, OR COURSE CHARTS	6.76	3
C54 PREPARE APRs	6.73	32
D63 CONDUCT FORMAL CLASSROOM INSTRUCTION	6.71	6

TABLE 27

THE 15 TASKS RATED LEAST DIFFICULT BY 302X0 PERSONNEL

TASKS	TASK DIFFICULTY RATING	PERCENT MEMBERS PERFORMING (N=557)
F147 POLISH OR WAX EQUIPMENT OR FACILITIES	1.98	69
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	2.16	86
F146 OPERATE FIELD PHONE SYSTEMS	2.39	64
F123 CLEAN OR REPLACE AIR FILTERS	2.47	63
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	2.57	86
E105 STORE SUPPLIES	2.88	47
F160 TAG OR LABEL EQUIPMENT	3.10	69
F122 CLEAN OR LUBRICATE HAND OR POWER TOOLS	3.11	60
H182 ADJUST GMQ-10 DETECTOR UNIT IRISES	3.13	68
F137 INSPECT OR REPLACE DISSICANTS	3.15	15
F130 FORWARD CATEGORY III TEST EQUIPMENT TO PMEL FOR REPAIR OR CALIBRATION	3.19	44
H187 ADJUST GMQ-13 CATHODE RAY TUBE (CRT) BRIGHTNESS OR FOCUS CONTROLS	3.24	72
F141 INSTALL SOLDERLESS CONNECTORS	3.25	61
G181 STORE NONELECTRONIC METEOROLOGICAL INSTRUMENTS	3.29	22
G172 LUBRICATE CLINOMETERS	3.29	6

TABLE 28

THE 15 TASKS RATED AS AVERAGE IN DIFFICULTY BY 302X0 PERSONNEL

TASKS	TASK DIFFICULTY RATING	PERCENT MEMBERS PERFORMING (N=557)
I271 REMOVE OR INSTALL COMPONENTS ON TMQ-22 METEOROLOGICAL MEASURING SETS	5.10	17
I263 MAKE ADJUSTMENTS TO TMQ-20 TEMPERATURE-DEWPOINT MEASURING SETS	5.10	6
A16 PLAN WORKLOADS	5.06	33
J297 PERFORMANCE CHECK GMD-4 RADIOSONDE EQUIPMENT	5.05	1
B33 SUPERVISE WEATHER EQUIPMENT SPECIALISTS (AFSC 30250)	5.04	35
I249 ADJUST TMQ-22 METEOROLOGICAL MEASURING SETS	5.03	17
B35 SUPERVISE WEATHER EQUIPMENT TECHNICIANS (AFSC 30270)	5.01	14
H216 MAKE ADJUSTMENTS TO GMQ-13 CLOUD HEIGHT SETS	5.00	73
D75 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	4.99	26
J307 REMOVE OR REPLACE COMPONENTS ON GMM-3 BASE LINE CHECK SETS	4.98	8
E108 UPDATE EQUIPMENT PLANT IN PLACE RECORDS (PIPR)	4.97	25
C45 EVALUATE SAFETY PROCEDURES	4.95	24
E97 PREPARE OR UPDATE MAN-HOUR EXPENDITURE RECORDS	4.94	9
B19 COORDINATE INSTALLATION OR REPAIR ACTIVITIES WITH OTHER BASE AGENCIES	4.94	42
J302 REMOVE OR REPLACE COMPONENTS IN GMD-1 RADIOSONDE EQUIPMENT	4.92	3

TABLE 29

INVENTORY TASKS PERFORMED AND NOT REFERENCED TO 302X0 STS
(20 PERCENT OR MORE PERFORMING)

TASKS	PERCENT MEMBERS PERFORMING		
	3-SKILL LEVEL	5-SKILL LEVEL	7-SKILL LEVEL
F142 INVENTORY OR MAINTAIN ASSIGNED TOOL KITS	62	74	75
F135 INSPECT FIELD PHONE COMMUNICATION SYSTEMS	38	53	54
C45 EVALUATE SAFETY PROCEDURES	14	15	40
A10 ESTABLISH SAFETY REGULATIONS OR CONTROLS	10	6	32
F131 FUNGUS PROOF ELECTRONIC EQUIPMENT	14	32	28
F118 CALIBRATE CATEGORY II TEST EQUIPMENT	7	15	25
G167 INSPECT ML-47 OR ML-474 THEODOLITES	14	17	20

TABLE 30

POI BLOCKS REFLECTING LOW FIRST JOB TASK PERFORMANCE
(LESS THAN 30 PERCENT PERFORMING)

POI BLOCK	SAMPLE TASKS	TRAINING		TASK DIFFICULTY	PERCENT MEMBERS PERFORMING	
		EMPHASIS	JOB		FIRST JOB	FIRST ENLISTMENT
BLOCK I, UNIT 3, BAROMETRY (5 HOURS)	G169 INSTALL ML-102 BAROMETERS	3.96	13	4.00	13	16
	G170 INSTALL OR MODIFY ML-2 OR ML-512 BAROMETERS	3.96	23	5.68	23	20
	G180 REPLACE NONELECTRONIC METEOROLOGICAL INSTRUMENTS	3.62	28	3.96	28	26
	G174 REMOVE OR INSTALL BAROGRAPHS	3.56	10	3.76	10	10
	G179 REMOVE OR INSTALL ML-48 BAROMETER CASES OR MOUNTS	3.20	5	4.37	5	4
	G175 REMOVE OR INSTALL INSTRUMENT SHELTERS OR CASES	2.62	15	4.01	15	6
	G171 INSTALL OR MODIFY ML-330 SERIES BAROMETERS	2.40	5	6.02	5	3
BLOCK VI, UNIT 2, SUPERVISION AND SAFETY HAZARD REPORTING (2 HOURS)	B29 SCHEDULE PREVENTIVE MAINTENANCE ACTIVITIES	4.02	8	3.98	8	15
	A11 ESTABLISH WORK PRIORITIES	3.62	10	4.65	10	19
	C54 PREPARE APRs	3.28	0	6.73	0	1
	A16 PLAN WORKLOADS	2.70	5	5.06	5	13
	A9 ESTABLISH PRODUCTION CONTROLS	1.12	0	5.53	0	2

COMPARISON OF ATTENDEES AND NONATTENDEES OF ELECTRONIC PRINCIPLES COURSE 5AQN30230

Technical school personnel requested that a comparison be made between tasks performed by attendees of the Electronic Principles Course, 5AQN30230, currently being taught at Great Lakes Naval Training Center, and tasks performed by weather equipment personnel who attended other electronic principles training (prior to February 1978, personnel attended Electronic Principles Course 3AQR30230 at Chanute AFB) to see if there was any notable difference. For the most realistic comparison, the composition of the nonattendee group was limited only to personnel with DAFSC 30230 or 30250.

Appendix B contains a listing of all tasks performed by over 50 percent of the course attendees, with the corresponding percent of nonattendees performing. Also included is the task difficulty rating for each listed task. Additionally, group datasheets are included to help compare pertinent background items, such as work areas and the percent of their job time spent on major duty categories.

Overall, there appear to be no distinctive differences between the two groups, both in terms of tasks performed or background characteristics. In reviewing the tasks performed, only minor differences were found in percent members performing. Table 31 lists those tasks which best differentiate between the two groups. Aside from a higher average time in service, time in career field, and time in their present job for nonattendees, almost all background variables were very comparable across the board. Computer products pertaining to these groups are included in the package of survey data forwarded to the technical training school.

TABLE 31

TASKS WHICH BEST DIFFERENTIATE BETWEEN 5AQN30230 ATTENDEES AND NONATTENDEES
(PERCENT MEMBERS PERFORMING)

TASKS	ATTENDEES (N=32)	NON- ATTENDEES (N=316)	DIFFERENCE
F127 FABRICATE ELECTRICAL CABLES	19	52	-33
F140 INSTALL EQUIPMENT MODIFICATION KITS	41	69	-28
F131 FUNGUS PROOF ELECTRONIC EQUIPMENT	6	33	-27
F122 CLEAN OR LUBRICATE HAND OR POWER TOOLS	37	63	-26
H190 ADJUST T-755 WIND MEASURING TRANSMITTER TACHOMETER OUTPUT VOLTAGES	47	71	-24
F147 POLISH OR WAX EQUIPMENT OR FACILITIES	56	80	-24
F160 TAG OR LABEL EQUIPMENT	50	72	-22
F156 SOLDER PLUGS	50	70	-20
K312 ALIGN POWER MONITORING SYSTEMS	38	56	-18
F141 INSTALL SOLDERLESS CONNECTORS	47	65	-18
F144 MAKE ENTRIES ON EQUIPMENT PERFORMANCE LOGS OR CHECKLISTS	34	52	-18
F136 INSPECT GROUNDING SYSTEMS	56	74	-18
K318 COMPUTE RADAR SYSTEM PERFORMANCE FIGURES	28	43	-15
H232 REMOVE OR INSTALL COMPONENTS IN GMQ-10 TRANSMISSOMETERS	63	77	-14
F125 COMPUTE CURRENT, VOLTAGE, OR RESISTANCE VALUES	59	73	-14
K312 ALIGN TRANSMITTING SYSTEMS	50	62	-12
K313 ALIGN RECEIVING SYSTEMS	56	67	-11
K311 ALIGN INDICATING SYSTEMS	56	67	-11

AVERAGE NUMBER OF TASKS PERFORMED BY ATTENDEES - 86
AVERAGE NUMBER OF TASKS PERFORMED BY NONATTENDEES - 106

COMPARISON OF CURRENT SURVEY TO PREVIOUS SURVEY

The results of this survey were compared to those of Occupational Survey Report (OSR) AFPT 90-302-044, dated 1 December 1972. Although the previous OSR did not identify a career ladder structure that could be compared, a thorough review of the CONUS/Overseas, DAFSC, and AFMS groups was accomplished.

Comparison of the data for the CONUS/Overseas groups revealed little change over time. In 1972, as now, higher percentages of CONUS personnel were performing radar equipment related tasks, while higher percentages of overseas personnel were performing tasks related to tactical equipment. No other significant variations were noted.

In comparing the DAFSC groups, there was a perceptible shift identified in the supervisory, managerial, and training functions. In 1972, 27 percent of the 7-skill level personnel's job time was spent in those functions, with nine percent on training tasks. In 1980, 24 percent of their job time was accounted for in those same functions, with only three percent related to training tasks. While the 7-skill level airmen's time spent on training duties was declining, the 5-skill level group was experiencing similar changes (six percent of job time in 1972 versus one percent in 1980). Conversely, the job time spent on training by 9-skill level members increased between 1972 and 1980, rising from five percent in 1972 to ten percent in 1980. Thus, it appears that the responsibility for training personnel has shifted from specialists and technicians to superintendent level airmen. Of additional interest is the fact that, while this shift in emphasis was occurring, the average number of persons supervised was declining in both DAFSC and AFMS groups, with the most severe drop in the AFMS groups (see Tables 32 and 33). Further evidence of the shift of the 7-skill level members to more time spent performing technical tasks is found in the comparison of the two survey responses to performance of radar equipment related tasks and duties. In 1972, 7-skill level airmen devoted nine percent of their job time to those tasks versus 14 percent in 1980 (a similar increase was noted for 5-skill level members - nine percent in 1972 versus 16 percent in 1980).

Comparison of job satisfaction indices of both DAFSC and AFMS groups indicated significant decreases in job interest over the years with perceived utilization of talent and training experiencing similar declines (see Tables 32 and 33). While favorable reenlistment intentions of DAFSC groups showed declines from 1972 to 1980, AFMS groups reflected some slight gains in 1980 in the 1-48 month groups and the 193-240 month groups.

Additional data pertaining to average time in the career field, average time in service, and average grade are displayed in Tables 32 and 33.

TABLE 32

COMPARISON OF PREVIOUS SURVEY AND CURRENT SURVEY DAFSC GROUPS

	TOTAL SAMPLE		DAFSC 30250		DAFSC 30270		DAFSC 30291/30299	
	1972 (N=645)	1980 (N=557)	1972 (N=388)	1980 (N=318)	1972 (N=222)	1980 (N=184)	1972 (N=29)	1980 (N=23)
GENERAL BACKGROUND INFORMATION:								
AVERAGE TIME IN CAREER FIELD (MONTHS)	68	76	45	45	101	127	200	179
AVERAGE TIME IN SERVICE (MONTHS)	103	95	62	54	163	156	280	245
AVERAGE NUMBER PERSONNEL SUPERVISED	3.5	1.0	1.6	.2	4.0	2.2	4.5	3.3
AVERAGE GRADE	4.8	4.6	4.2	4.0	5.9	5.6	8.1	7.5

JOB SATISFACTION INFORMATION:
(PERCENT MEMBERS RESPONDING)

JOB FAIRLY INTERESTING OR BETTER	76%	64%	67%	55%	89%	79%	82%	61%
TALENT OR TRAINING UTILIZED FAIRLY WELL OR BETTER*	84%	-	79%	-	90%	-	86%	-
TALENT UTILIZED FAIRLY WELL OR BETTER	-	74%	-	68%	-	84%	-	83%
TRAINING UTILIZED FAIRLY WELL OR BETTER	-	75%	-	71%	-	82%	-	78%
FAVORABLY CONSIDERING REENLISTING	51%	48%	43%	38%	70%	67%	48%	39%

* TWO WERE COMBINED IN 1972 SURVEY

TABLE 33
COMPARISON OF PREVIOUS SURVEY AND CURRENT SURVEY AFMS GROUPS

	1-48 MONTHS		49-96 MONTHS		97-144 MONTHS		145-192 MONTHS		193-240 MONTHS		241+ MONTHS	
	1972 (N=216)	1980 (N=212)	1972 (N=132)	1980 (N=133)	1972 (N=107)	1980 (N=69)	1972 (N=74)	1980 (N=66)	1972 (N=68)	1980 (N=56)	1972 (N=43)	1980 (N=19)
GENERAL BACKGROUND INFORMATION:												
AVERAGE TIME IN CAREER FIELD (MONTHS)	18	30	55	58	94	88	101	150	88	167	197	154
AVERAGE TIME IN SERVICE (MONTHS)	22	34	67	71	121	115	164	166	215	221	285	267
AVERAGE NUMBER PERSONNEL SUPERVISED	1.4	.1	2.0	.5	2.6	1.3	3.2	2.5	3.6	2.4	4.5	3.5
AVERAGE GRADE	3.4	3.6	4.7	4.4	5.5	5.0	5.8	5.7	6.2	6.5	7.3	7.2
JOB SATISFACTION INFORMATION: (PERCENT MEMBERS RESPONDING)												
JOB FAIRLY INTERESTING OR BETTER	66%	53%	73%	69%	83%	68%	89%	72%	84%	80%	83%	69%
TALENT OR TRAINING UTILIZED FAIRLY WELL OR BETTER*	80%	-	85%	-	92%	-	86%	-	79%	-	90%	-
TALENT UTILIZED FAIRLY WELL OR BETTER	-	65%	-	74%	-	83%	-	81%	-	88%	-	84%
TRAINING UTILIZED FAIRLY WELL OR BETTER	-	69%	-	77%	-	77%	-	84%	-	81%	-	84%
FAVORABLY CONSIDERING REENLISTING	19%	21%	58%	47%	87%	80%	96%	84%	31%	41%	58%	42%

* TWO WERE COMBINED IN 1972 SURVEY

IMPLICATIONS

Overall, first-term incumbents of this career ladder indicate above average job interest and perceived utilization of talents and training, with their perceptions comparable to a comparative group of Mission Equipment Maintenance career ladders (see Table 19) surveyed in 1979. Personnel in their second enlistment and beyond indicated slightly higher job satisfaction indices than those of the 1979 comparative group. One key indicator that was lower, however, was the first enlistment group's favorable reenlistment response. Only 28 percent of the 212 first-term airmen indicated intentions to reenlist. This means that only 59 of the 212 members are likely to stay in the Air Force. Conversely, 97 (or 72 percent) responded that they do not plan to reenlist. While there has been an improvement over the 19 percent of the comparable 1972 sample group who indicated favorable reenlistment intentions, this is a rather large loss of talent in which the Air Force has approximately 37 weeks of technical training time invested. It is also interesting to note that, when compared with the number of personnel in the 1972 sample AFMS groups, there was a continual decline in population for the 97-144 month group and later career groups (see Table 33). This suggests that currently the specialty has a larger proportion of first enlistment personnel than in the past. Some of the losses of more senior personnel may be attributed to the fact that the skills possessed are highly salable in the civilian market (one base-level NCOIC indicated that he constantly receives calls from both civilian government agencies and private sector employers searching for good repairmen). This may be something over which AF managers have no control.

However, as pointed out in the CAREER LADDER STRUCTURE section, the CRA Fixed-Installation Equipment Repairmen group (70 percent were first-term airmen) indicated much lower job satisfaction than the other survey groups (see Table 4). This dissatisfaction appears to relate to a relatively narrow, possibly unchallenging job. The scope of a job is something over which AF management can exert control. Managers, particularly at the Centralized Repair Activities (which have the largest concentrations of 302X0 personnel and where the majority of this group of airmen work) may wish to evaluate their functions to insure that first-term airmen are not unnecessarily limited in their opportunity to perform the full range of the job for which they were trained.

The limited data relative to attitudes available through the job survey program does not allow in-depth analysis as to why airmen perceive their jobs as they do. However, the limited number of write-in comments received on this survey touch on two possible causes of discontent. Some members assigned to Engineering and Installation (E&I) functions felt that their training was not being used properly, in that they seldom did maintenance work, only performing pure equipment installation duties. Since no E&I group was identified in the career ladder structure, it would appear that this limited duty is not standard across the career ladder, however. Even so, this possible irritant may warrant review. Another factor mentioned by airmen writing in on the survey was their perception that they were no longer respected as technicians since their transfer from the Air Weather Service (AWS) to Air Force Communications Command. Indications were that

now, as part of a much larger organization (generally a Communications Squadron or Group at most bases), they are just a "number" instead of a person, and their work is not appreciated as it was when they were a part of the smaller work force of the base weather facility.

In view of the sample's low first-term reenlistment indications and the relatively high number in the first enlistment (38 percent, or over one-third of the entire sample), Air Force functional managers may find it advisable to pursue the dissatisfaction issue in an attempt to reverse the potentially low retention rate of these highly trained personnel.

APPENDIX A

TABLE I
REPRESENTATIVE TASKS FOR NONRADAR SURFACE EQUIPMENT MAINTENANCE PERSONNEL
(GRP106)

TASKS	PERCENT MEMBERS PERFORMING
H202 INSPECT GMQ-13 CLOUD HEIGHT SETS	100
H203 INSPECT GMQ-20 WIND MEASURING SYSTEMS	100
H185 ADJUST GMQ-13 CLOUD HEIGHT SET UNITS	100
H216 MAKE ADJUSTMENTS TO GMQ-13 CLOUD HEIGHT SETS	100
H217 MAKE ADJUSTMENTS TO GMQ-20 WIND MEASURING SETS	100
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	100
F134 INSPECT EQUIPMENT FOR CORROSION	99
H197 CALIBRATE GMQ-20 WIND SYSTEMS	99
H226 PERFORMANCE CHECK GMQ-13 CLOUD HEIGHT SETS	99
H208 ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	99
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	99
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	97
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	97
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	97
H233 REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	97
F159 SPRAY OR BRUSH PAINT EQUIPMENT	96
H198 CALIBRATE TMQ-11 TEMPERATURE OR DEWPOINT SYSTEMS	96
H192 ADJUST TMQ-11 TEMPERATURE-DEWPOINT MEASURING SET UNITS	94
F143 LUBRICATE EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	94
H191 ADJUST TMQ-11 TEMPERATURE SENSOR RHEOSTATS	94
H187 ADJUST GMQ-13 CATHODE RAY TUBE (CRT) BRIGHTNESS OR FOCUS CONTROLS	94
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	93
H235 REMOVE OR INSTALL COMPONENTS OF GMQ-13 CLOUD HEIGHT SETS	93
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	93
H212 ISOLATE MALFUNCTIONS ON TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	93
F121 CLEAN OPTICAL SURFACES	92
H205 INSPECT TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	92
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	92
F136 INSPECT GROUNDING SYSTEMS	92
H194 CALIBRATE GMQ-10 TRANSMISSOMETER SYSTEM	90

TABLE II
REPRESENTATIVE TASKS FOR SURFACE EQUIPMENT MAINTENANCE PERSONNEL
(GRP099)

TASKS	PERCENT MEMBERS PERFORMING
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	99
K321 ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	99
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	98
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	98
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	98
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	98
K335 PERFORMANCE CHECK POWER SUPPLIES	97
K313 ALIGN RECEIVING SYSTEMS	97
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	97
H217 MAKE ADJUSTMENTS TO GMQ-20 WIND MEASURING SETS	97
F134 INSPECT EQUIPMENT FOR CORROSION	96
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	96
K309 ALIGN ANTENNA SYSTEMS	96
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	96
F159 SPRAY OR BRUSH PAINT EQUIPMENT	96
H197 CALIBRATE GMQ-20 WIND SYSTEMS	96
H208 ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	96
K336 PERFORMANCE CHECK RECEIVING SYSTEMS	95
H203 INSPECT GMQ-20 WIND MEASURING SYSTEMS	95
K310 ALIGN AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	95
H216 MAKE ADJUSTMENTS TO GMQ-13 CLOUD HEIGHT SETS	95
K311 ALIGN INDICATING SYSTEMS	95
K319 COMPUTE RECEIVER NOISE FIGURES	95
H226 PERFORMANCE CHECK GMQ-13 CLOUD HEIGHT SET UNITS	95
H185 ADJUST GMQ-13 CLOUD HEIGHT SET UNITS	95
K320 DIAGNOSE SYSTEM TROUBLES FROM CRT INDICATOR DISPLAYS INFORMATION	95
K337 PERFORMANCE CHECK TRANSMITTING SYSTEMS	95
F133 INSPECT ELECTRICAL CABLES OR WIRING	95
H233 REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	95
K333 PERFORMANCE CHECK INDICATING SYSTEMS	94

TABLE III
REPRESENTATIVE TASKS FOR FIRST-LINE RADAR MAINTENANCE SUPERVISORS
(GRP093)

TASKS	PERCENT MEMBERS PERFORMING
K333 PERFORMANCE CHECK INDICATING SYSTEMS	100
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	100
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	100
K320 DIAGNOSE SYSTEM TROUBLES FROM CRT INDICATOR DISPLAYS INFORMATION	100
K332 PERFORMANCE CHECK AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	100
K311 ALIGN INDICATING SYSTEMS	100
K310 ALIGN AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	100
K336 PERFORMANCE CHECK RECEIVING SYSTEMS	100
K337 PERFORMANCE CHECK TRANSMITTING SYSTEMS	100
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	100
K329 MEASURE RECEIVER FREQUENCIES	100
K331 PERFORMANCE CHECK ANTENNA SYSTEMS	100
K313 ALIGN RECEIVING SYSTEMS	100
K335 PERFORMANCE CHECK POWER SUPPLIES	100
K340 REMOVE OR REPLACE COMPONENTS IN METEOROLOGICAL RADAR SETS	100
K322 MEASURE LOCAL OSCILLATOR FREQUENCIES	100
K330 MEASURE TRANSMITTER OUTPUT POWER	100
K321 ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	100
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	100
K309 ALIGN ANTENNA SYSTEMS	100
K326 MEASURE RADAR SYSTEMS SENSITIVITY	100
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	100
F136 INSPECT GROUNDING SYSTEMS	100
F159 SPRAY OR BRUSH PAINT EQUIPMENT	100
K314 ALIGN STORM DETECTION RADARS	89
K316 ANALYZE MAGNETRON OUTPUT FREQUENCY RANGES	89
F145 MEASURE OR VERIFY LINE VOLTAGES	89
C51 INSPECT EQUIPMENT USING PERFORMANCE CRITERIA CHECKLISTS	78
B33 SUPERVISE WEATHER EQUIPMENT SPECIALISTS (AFSC 30250)	78
C54 PREPARE APRs	67

TABLE IV
REPRESENTATIVE TASKS FOR UPPER AIR DATA AND SURFACE EQUIPMENT REPAIRMEN
(GRP090)

TASKS	PERCENT MEMBERS PERFORMING
J275 ADJUST GMD-2 RADIOSONDE EQUIPMENT UNITS	100
J288 ISOLATE MALFUNCTIONS ON GMD-2 EQUIPMENT	100
J303 REMOVE OR REPLACE COMPONENTS IN GMD-2 EQUIPMENT	100
J282 INSPECT GMD-2 RADIOSONDE EQUIPMENT UNITS	100
J295 PERFORMANCE CHECK GMD-2 RADIOSONDE EQUIPMENT	100
J290 ISOLATE MALFUNCTIONS ON TMQ-5 METEOROLOGICAL DATA RECORDERS	100
J277 ADJUST TMQ-5 METEOROLOGICAL DATA RECORDERS	100
J305 REMOVE OR REPLACE COMPONENTS IN TMQ-5 METEOROLOGICAL DATA RECORDERS	100
J298 PERFORMANCE CHECK TMQ-5 METEOROLOGICAL DATA RECORDERS	100
J285 INSPECT GMM-3 BASE LINE CHECK SETS	100
H196 CALIBRATE GMQ-20 WIND DIRECTION SYSTEMS	100
J273 ADJUST BASE LINE CHECK SETS ON GMM-3	100
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	100
H203 INSPECT GMQ-20 WIND MEASURING SET UNITS	100
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	100
F134 INSPECT EQUIPMENT FOR CORROSION	100
J307 REMOVE OR REPLACE COMPONENTS ON GMM-3 BASE LINE CHECK SETS	100
H198 CALIBRATE TMQ-11 TEMPERATURE OR DEWPOINT SYSTEMS	100
H217 MAKE ADJUSTMENTS TO GMQ-20 WIND MEASURING SETS	100
H205 INSPECT TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	100
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	100
H192 ADJUST TMQ-11 TEMPERATURE-DEWPOINT MEASURING SET UNITS	100
F145 MEASURE OR VERIFY LINE VOLTAGES	100
H212 ISOLATE MALFUNCTIONS ON TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	100
I265 PERFORMANCE CHECK TMQ-15 WIND MEASURING SETS	100
I250 CALIBRATE TMQ-15 WIND DIRECTION SYSTEMS	100
I262 MAKE ADJUSTMENTS TO TMQ-15 WIND MEASURING SETS	100
I254 INSPECT TMQ-15 WIND MEASURING SYSTEMS	100
F159 SPRAY OR BRUSH PAINT EQUIPMENT	86
J286 INSPECT TMQ-5 METEOROLOGICAL DATA RECORDERS	86

TABLE V
REPRESENTATIVE TASKS FOR MAINTENANCE MANAGEMENT SUPERVISORS
(GRP081)

TASKS	PERCENT MEMBERS PERFORMING
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	100
B21 DRAFT CORRESPONDENCE	100
C51 INSPECT EQUIPMENT USING PERFORMANCE CRITERIA CHECKLISTS	100
E89 LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	100
E91 MAKE ENTRIES ON MAINTENANCE DATA RECORDS OR FORMS	100
B23 EVALUATE ALIGNMENT OR CALIBRATION PROCEDURES	100
C52 INSPECT FACILITIES	91
B25 IMPLEMENT QUALITY CONTROL PROGRAMS	91
A11 ESTABLISH WORK PRIORITIES	91
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	91
B24 IMPLEMENT OR SUPERVISE SAFETY OR SECURITY PROGRAMS	91
A3 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	91
E87 INVENTORY EQUIPMENT OR SUPPLIES	91
B20 DEVISE REPAIR PROCEDURES	91
B18 BRIEF PERSONNEL ON NEW DIRECTIVES	91
C54 PREPARE APRs	91
C42 EVALUATE PERFORMANCE OF NEWLY INSTALLED EQUIPMENT	91
F136 INSPECT GROUNDING SYSTEMS	91
E84 ESTIMATE BENCH STOCK LEVEL REQUIREMENTS	91
F134 INSPECT EQUIPMENT FOR CORROSION	91
B26 PROVIDE SUPERVISORY INDOCTRINATION FOR NEWLY ASSIGNED PERSONNEL	91
E85 ESTIMATE SPECIAL LEVEL SUPPLY REQUIREMENTS	91
F133 INSPECT ELECTRICAL CABLES OR WIRING	91
B28 SCHEDULE LEAVES OR PASSES	82
C37 ANALYZE TRENDS IN SYSTEMS MALFUNCTIONS	82
A16 PLAN WORKLOADS	82
E103 RESEARCH MAINTENANCE RECORDS OR REPORTS	82
B29 SCHEDULE PREVENTIVE MAINTENANCE ACTIVITIES	82
C36 ANALYZE INSPECTION REPORTS OR SURVEYS	82
C57 PREPARE ROUTINE UNSATISFACTORY MATERIEL REPORTS	82

TABLE VI
REPRESENTATIVE TASKS FOR QUALITY CONTROL/INSPECTION PERSONNEL
(GRP068)

TASKS	PERCENT MEMBERS PERFORMING
H229 PERFORMANCE CHECK TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	100
H205 INSPECT TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	100
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	100
H226 PERFORMANCE CHECK GMQ-13 CLOUD HEIGHT SETS	100
H203 INSPECT GMQ-20 WIND MEASURING SYSTEMS	100
H225 PERFORMANCE CHECK GMQ-10 TRANSMISSOMETERS	100
C51 INSPECT EQUIPMENT USING PERFORMANCE CRITERIA CHECKLISTS	100
F134 INSPECT EQUIPMENT FOR CORROSION	100
H201 INSPECT GMQ-10 TRANSMISSOMETER SYSTEMS	100
H202 INSPECT GMQ-13 CLOUD HEIGHT SETS	100
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	100
H223 PERFORMANCE CHECK FMN-1 RUNWAY VISUAL RANGE COMPUTING SETS	100
K336 PERFORMANCE CHECK RECEIVING SYSTEMS	100
K337 PERFORMANCE CHECK TRANSMITTING SYSTEMS	100
H199 INSPECT FMN-1 RUNWAY VISUAL RANGE COMPUTING SETS	100
K332 PERFORMANCE CHECK AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	100
K333 PERFORMANCE CHECK INDICATING SYSTEMS	100
K334 PERFORMANCE CHECK POWER MONITORING SYSTEMS	100
K335 PERFORMANCE CHECK POWER SUPPLIES	100
K331 PERFORMANCE CHECK ANTENNA SYSTEMS	100
C38 EVALUATE CHANGES TO WEATHER SYSTEMS EQUIPMENT	100
I254 INSPECT TMQ-15 WIND MEASURING SYSTEMS	100
I265 PERFORMANCE CHECK TMQ-15 WIND MEASURING SETS	100
G168 INSPECT OPERATION OF BAROGRAPHS	100
F133 INSPECT ELECTRICAL CABLES OR WIRING	88
F136 INSPECT GROUNDING SYSTEMS	88
H224 PERFORMANCE CHECK GMQ-11 WIND MEASURING SETS	88
H200 INSPECT GMQ-11 WIND MEASURING SYSTEMS	88
B21 DRAFT CORRESPONDENCE	88
B25 IMPLEMENT QUALITY CONTROL PROGRAMS	88

TABLE VII
REPRESENTATIVE TASKS FOR CRA TACTICAL EQUIPMENT REPAIRMEN
(GRP056)

TASKS	PERCENT MEMBERS PERFORMING
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	100
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	100
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	100
I250 CALIBRATE TMQ-15 WIND DIRECTION SYSTEMS	100
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	100
F156 SOLDER PLUGS	100
I251 CALIBRATE TMQ-20 TEMPERATURE OR DEWPOINT SYSTEMS	100
F152 REPAIR OR REPLACE ELECTRICAL WIRES OR CABLES	100
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	100
F163 TREAT CORRODED ITEMS	100
F159 SPRAY OR BRUSH PAINT EQUIPMENT	100
F154 SOLDER CIRCUIT BOARDS	100
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	100
F160 TAG OR LABEL EQUIPMENT	100
I246 ADJUST TMQ-14 CATHODE RAY TUBE (CRT) BRIGHTNESS	100
F127 FABRICATE ELECTRICAL CABLES	100
F119 CLEAN AND TIN SOLDERING EQUIPMENT	100
F143 LUBRICATE EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	100
F140 INSTALL EQUIPMENT MODIFICATION KITS	100
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	88
I254 INSPECT TMQ-15 WIND MEASURING SYSTEMS	88
F133 INSPECT ELECTRICAL CABLES OR WIRING	88
I258 ISOLATE MALFUNCTIONS ON TMQ-15 WIND MEASURING SETS	88
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	88
I262 MAKE ADJUSTMENTS TO TMQ-15 WIND MEASURING SETS	88
I265 PERFORMANCE CHECK TMQ-15 WIND MEASURING SETS	88
I269 REMOVE OR INSTALL COMPONENTS IN TMQ-15 WIND MEASURING SETS	88
E90 LOCATE TECHNICAL PUBLICATIONS IN T.C. INDEXES	88
I253 INSPECT TMQ-14 CLOUD HEIGHT SETS	88
F134 INSPECT EQUIPMENT FOR CORROSION	88

TABLE VIII

REPRESENTATIVE TASKS FOR CRA FIXED-INSTALLATION EQUIPMENT REPAIRMEN
(GRP042)

TASKS	PERCENT MEMBERS PERFORMING
F159 SPRAY OR BRUSH PAINT EQUIPMENT	100
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	100
H221 MEASURE GMQ-20 TACHOMETER VOLTAGES	90
F134 INSPECT EQUIPMENT FOR CORROSION	90
H217 MAKE ADJUSTMENTS TO GMQ-20 WIND MEASURING SETS	90
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	90
H190 ADJUST T-755 WIND MEASURING TRANSMITTER TACHOMETER OUTPUT VOLTAGES	86
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	86
F133 INSPECT ELECTRICAL CABLES OR WIRING	86
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	83
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	83
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	83
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	83
F163 TREAT CORRODED ITEMS	79
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	79
H197 CALIBRATE GMQ-20 WIND SYSTEMS	76
F147 POLISH OR WAX EQUIPMENT OR FACILITIES	76
H233 REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	76
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	76
F119 CLEAN AND TIN SOLDERING EQUIPMENT	76
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	72
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	72
F143 LUBRICATE EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	66
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	62
E89 LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	62
F160 TAG OR LABEL EQUIPMENT	62
F156 SOLDER PLUGS	62
F145 MEASURE OR VERIFY LINE VOLTAGES	62
G164 CALIBRATE MERCURIAL BAROMETERS	59
F142 INVENTORY OR MAINTAIN ASSIGNED TOOL KITS	59

TABLE IX
REPRESENTATIVE TASKS FOR SOLAR EQUIPMENT REPAIRMEN
(GRP054)

TASKS	PERCENT MEMBERS PERFORMING
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	100
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	100
F133 INSPECT ELECTRICAL CABLES OR WIRING	100
F143 LUBRICATE EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	100
F134 INSPECT EQUIPMENT FOR CORROSION	100
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	91
F154 SOLDER CIRCUIT BOARDS	91
E89 LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	91
F145 MEASURE OR VERIFY LINE VOLTAGES	91
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	91
F160 TAG OR LABEL EQUIPMENT	91
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	91
F125 COMPUTE CURRENT, VOLTAGE, OR RESISTANCE VALUES	91
F136 INSPECT GROUNDING SYSTEMS	91
E91 MAKE ENTRIES ON MAINTENANCE DATA RECORDS OR FORMS	91
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	82
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	82
B23 EVALUATE ALIGNMENT OR CALIBRATION PROCEDURES	82
F119 CLEAN AND TIN SOLDERING EQUIPMENT	82
F163 TREAT CORRODED ITEMS	82
F114 ADJUST LENS SYSTEMS	73
F121 CLEAN OPTICAL SURFACES	73
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	73
F142 INVENTORY OR MAINTAIN ASSIGNED TOOL KITS	73
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	73
F141 INSTALL SOLDERLESS CONNECTORS	73
E105 STORE SUPPLIES	73
F127 FABRICATE ELECTRICAL CABLES	73
F122 CLEAN OR LUBRICATE HAND OR POWER TOOLS	73
E87 INVENTORY EQUIPMENT OR SUPPLIES	73

TABLE X
REPRESENTATIVE TASKS FOR UPPER AIR DATA EQUIPMENT DEPOT REPAIRMEN
(GRP036)

TASKS	PERCENT MEMBERS PERFORMING
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	100
J293 MECHANICALLY ADJUST RADIOSONDE RECORDING SYSTEMS, GMD-1, GMD-2, OR GMD-4	100
J288 ISOLATE MALFUNCTIONS ON GMD-2 EQUIPMENT	100
J290 ISOLATE MALFUNCTIONS ON TMQ-5 METEOROLOGICAL DATA RECORDERS	100
J275 ADJUST GMD-2 RADIOSONDE EQUIPMENT UNITS	100
J282 INSPECT GMD-2 RADIOSONDE EQUIPMENT UNITS	100
J298 PERFORMANCE CHECK TMQ-5 METEOROLOGICAL DATA RECORDERS	100
F119 CLEAN AND TIN SOLDERING EQUIPMENT	100
J303 REMOVE OR REPLACE COMPONENTS IN GMD-2 RADIOSONDE EQUIPMENT	90
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	90
J295 PERFORMANCE CHECK GMD-2 RADIOSONDE EQUIPMENT	90
J279 ASSEMBLE GMD-2 RADIOSONDE EQUIPMENT	90
J286 INSPECT TMQ-5 METEOROLOGICAL DATA RECORDERS	90
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	90
J277 ADJUST TMQ-5 METEOROLOGICAL DATA RECORDERS	90
J305 REMOVE OR REPLACE COMPONENTS IN TMQ-5 METEOROLOGICAL DATA RECORDERS	90
E91 MAKE ENTRIES ON MAINTENANCE DATA RECORDS OR FORMS	90
J278 ASSEMBLE GMD-1 RADIOSONDE EQUIPMENT	80
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	80
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	80
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	80
F133 INSPECT ELECTRICAL CABLES OR WIRING	80
J274 ADJUST GMD-1 RADIOSONDE EQUIPMENT UNITS	80
J292 ISOLATE MALFUNCTIONS TO BASE LINE CHECK SETS ON GMM-3	80
E89 LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	80
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	80
F127 FABRICATE ELECTRICAL CABLES	80
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	70
J301 REMOVE OR INSTALL TMQ-5 METEOROLOGICAL DATA RECORDERS	70
J287 ISOLATE MALFUNCTIONS ON GMD-1 RADIOSONDE EQUIPMENT	70

TABLE XI
REPRESENTATIVE TASKS FOR MAINTENANCE SUPERVISORS
(GRP044)

TASKS	PERCENT MEMBERS PERFORMING
A11 ESTABLISH WORK PRIORITIES	100
C54 PREPARE APRs	100
A13 ESTIMATE PERSONNEL REQUIREMENTS	100
A8 ESTABLISH PERFORMANCE STANDARDS	100
B21 DRAFT CORRESPONDENCE	92
B18 BRIEF PERSONNEL ON NEW DIRECTIVES	92
A3 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	92
A16 PLAN WORKLOADS	85
B35 SUPERVISE WEATHER EQUIPMENT TECHNICIANS (AFSC 30270)	85
C50 INDORSE AIRMEN PERFORMANCE REPORTS (APR)	85
A12 ESTIMATE EQUIPMENT OR SUPPLY REQUIREMENTS	85
B28 SCHEDULE LEAVES OR PASSES	85
B26 PROVIDE SUPERVISORY INDOCTRINATION FOR NEWLY ASSIGNED PERSONNEL	85
C40 EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION	77
A15 PLAN RECORD KEEPING SYSTEMS	77
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	77
B22 DRAFT JOB DESCRIPTIONS	77
B24 IMPLEMENT OR SUPERVISE SAFETY OR SECURITY PROGRAMS	77
C52 INSPECT FACILITIES	69
B19 COORDINATE INSTALLATION OR REPAIR ACTIVITIES WITH OTHER BASE AGENCIES	69
A7 DRAFT SOPs OR OTHER LOCAL DIRECTIVES	69
A6 DRAFT BUDGET ESTIMATES	69
A4 DEVELOP ORGANIZATIONAL OR FUNCTIONAL CHARTS	69
C48 EVALUATE TRAINING PROGRAMS	62
A9 ESTABLISH PRODUCTION CONTROLS	62
A10 ESTABLISH SAFETY REGULATIONS OR CONTROLS	62
C46 EVALUATE SUGGESTION FORMS (AF FORM 1000)	62
D75 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	54
C39 EVALUATE FUND EXPENDITURES	54
C36 ANALYZE INSPECTION REPORTS OR SURVEYS	54

TABLE XII
REPRESENTATIVE TASKS FOR HEADQUARTERS STAFF PERSONNEL
(GRP033)

TASKS	PERCENT MEMBERS PERFORMING
C44 EVALUATE PROPOSED CHANGES TO TECHNICAL PUBLICATIONS	100
C36 ANALYZE INSPECTION REPORTS OR SURVEYS	91
C38 EVALUATE CHANGES TO WEATHER SYSTEMS EQUIPMENT	91
C46 EVALUATE SUGGESTION FORMS (AF FORM 1000)	91
B21 DRAFT CORRESPONDENCE	82
C37 ANALYZE TRENDS IN SYSTEMS MALFUNCTIONS	82
C49 EVALUATE UNSATISFACTORY MATERIEL REPORTS	73
C47 EVALUATE TECHNICAL ORDER IMPROVEMENT REPORTS	64
B19 COORDINATE INSTALLATION OR REPAIR ACTIVITIES WITH OTHER BASE AGENCIES	55
C42 EVALUATE PERFORMANCE OF NEWLY INSTALLED EQUIPMENT	55
C48 EVALUATE TRAINING PROGRAMS	45
A3 DEVELOP OR IMPROVE WORK METHODS OR PROCEDURES	45
A17 PROGRAM FOR NEW EQUIPMENT	45
A12 ESTIMATE EQUIPMENT OR SUPPLY REQUIREMENTS	45
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	45
C52 INSPECT FACILITIES	36
C41 EVALUATE INSTALLATION WEATHER SYSTEMS OPERATIONS	36
A13 ESTIMATE PERSONNEL REQUIREMENTS	36
E90 LOCATE TECHNICAL PUBLICATIONS IN T.O. INDEXES	36
E106 SUBMIT REQUEST FOR REVISION OF TECHNICAL ORDERS OR INDEXES	36
E89 LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	36
B23 EVALUATE ALIGNMENT OR CALIBRATION PROCEDURES	27
A14 PLAN INSTALLATION OF NEW EQUIPMENT	27
E110 UPDATE TECHNICAL PUBLICATION FILES	27
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	27
C45 EVALUATE SAFETY PROCEDURES	27
A15 PLAN RECORD KEEPING SYSTEMS	18
C51 INSPECT EQUIPMENT USING PERFORMANCE CRITERIA CHECKLISTS	18
C53 INSPECT MODIFICATION KIT INSTALLATIONS	18
E93 PREPARE ACTIVITY REPORTS	18

APPENDIX B

COMPARISON OF TASKS PERFORMED BY OVER 50 PERCENT OF COURSE 5AQN30230 ATTENDEES

TASKS	PERCENT MEMBERS PERFORMING		TASK DIFFICULTY
	ATTENDEES (N=32)	NON- ATTENDEES (N=316)	
F153 REPLACE PLUG-IN OR SNAP-IN COMPONENTS, SUCH AS BATTERIES, FUSES, OR VACUUM TUBES	91	91	2.57
F162 TRACE CIRCUITS OR SIGNALS USING BLOCK OR CIRCUIT DIAGRAMS	88	91	5.36
F126 DIAGNOSE EQUIPMENT MALFUNCTIONS USING SYSTEMS OPERATIONAL CHECKS	88	86	5.59
F134 INSPECT EQUIPMENT FOR CORROSION	84	90	3.94
F161 TIGHTEN LOOSE NUTS, BOLTS, OR SCREWS	84	93	2.16
H217 MAKE ADJUSTMENTS TO GMQ 20 WIND MEASURING SETS	84	86	4.42
H210 ISOLATE MALFUNCTIONS ON GMQ-20 WIND MEASURING SETS	84	87	4.80
F159 SPRAY OR BRUSH PAINT EQUIPMENT	84	91	4.00
F119 CLEAN AND TIN SOLDERING EQUIPMENT	84	85	3.33
F121 CLEAN OPTICAL SURFACES	81	72	3.35
H196 CALIBRATE GMQ-20 WIND DIRECTION SYSTEMS	81	86	4.52
F120 CLEAN EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	81	89	3.34
H188 ADJUST GMQ-20 WIND MEASURING SET UNITS	81	88	4.27
H227 PERFORMANCE CHECK GMQ-20 WIND MEASURING SETS	81	85	4.18
H226 PERFORMANCE CHECK GMQ-13 CLOUD HEIGHT SETS	81	81	4.53
F155 SOLDER NON-SOLID STATE CIRCUIT COMPONENTS	81	85	4.84
H198 CALIBRATE TMQ-11 TEMPERATURE OR DEWPOINT SYSTEMS	81	76	4.53
H197 CALIBRATE GMQ-20 WIND SYSTEMS	78	87	4.63
F163 TREAT CORRODED ITEMS	78	84	4.38
H202 INSPECT GMQ-13 CLOUD HEIGHT SETS	78	78	4.80
H203 INSPECT GMQ-20 WIND MEASURING SYSTEMS	78	82	4.38
F133 INSPECT ELECTRICAL CABLES OR WIRING	78	85	4.20
H233 REMOVE OR INSTALL COMPONENTS IN GMQ-20 WIND MEASURING SETS	78	83	4.50
H185 ADJUST GMQ-13 CLOUD HEIGHT SET UNITS	78	81	4.78
H216 MAKE ADJUSTMENTS TO GMQ-13 CLOUD HEIGHT SETS	78	80	5.00
H229 PERFORMANCE CHECK TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	75	78	4.52
F145 MEASURE OR VERIFY LINE VOLTAGES	75	81	3.41
H235 REMOVE OR INSTALL COMPONENTS OF GMQ-13 CLOUD HEIGHT SETS	75	76	4.89
F157 SOLDER SOLID STATE DEVICES, SUCH AS TRANSISTORS, DIODES, OR INTEGRATED COMPONENTS	75	84	6.17
H208 ISOLATE MALFUNCTIONS ON GMQ-13 CLOUD HEIGHT SETS	75	81	5.48
E86 IDENTIFY PARTS USING ILLUSTRATED PARTS BREAKDOWNS (IPBS)	75	75	3.72
K335 PERFORMANCE CHECK POWER SUPPLIES	72	68	4.75
F146 OPERATE FIELD PHONE SYSTEMS	72	71	2.39
F143 LUBRICATE EQUIPMENT MECHANICAL OR ELECTRICAL COMPONENTS	72	82	3.71
H225 PERFORMANCE CHECK GMQ-10 TRANSMISSOMETERS	72	77	4.40

COMPARISON OF TASKS PERFORMED BY OVER 50 PERCENT OF COURSE 5AQN30230 ATTENDEES
(CONTINUED)

TASKS	PERCENT MEMBERS PERFORMING		TASK DIFFICULTY
	ATTENDEES (N=32)	NON- ATTENDEES (N=316)	
H205 INSPECT TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	72	74	4.69
H192 ADJUST TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	72	79	4.40
H187 ADJUST GMQ-13 CATHODE RAY TUBE (CRT) BRIGHTNESS OR FOCUS CONTROLS	72	79	3.24
H183 ADJUST GMQ-10 TRANSMISSOMETERS PROJECTOR LAMP VOLTAGES	72	78	3.96
H221 MEASURE CMQ-20 TACHOMETER VOLTAGES	69	68	3.77
E91 MAKE ENTRIES ON MAINTENANCE DATA RECORD FORMS	69	70	4.26
H214 MAKE ADJUSTMENTS TO GMQ-10 TRANSMISSOMETERS	69	78	4.83
F152 REPAIR OR REPLACE ELECTRICAL WIRES OR CABLES	69	75	4.56
E88 LOCATE MAINTENANCE INFORMATION IN TECHNICAL PUBLICATIONS	69	76	4.28
H182 ADJUST GMQ-10 DETECTOR UNIT IRISES	69	74	3.13
H212 ISOLATE MALFUNCTIONS ON TMQ-11 TEMPERATURE-DEWPOINT MEASURING SETS	69	80	5.46
H184 ADJUST GMQ-10 TRANSMISSOMETER UNITS	69	76	4.34
K319 COMPUTE RECEIVER NOISE FIGURES	66	66	5.37
K336 PERFORMANCE CHECK RECEIVING SYSTEMS	66	66	5.36
K321 ISOLATE MALFUNCTIONS ON METEOROLOGICAL RADAR SETS	66	68	7.00
K331 PERFORMANCE CHECK ANTENNA SYSTEMS	66	65	5.64
H201 INSPECT GMQ-10 TRANSMISSOMETER SYSTEMS	66	75	4.58
H209 ISOLATE MALFUNCTIONS ON GMQ-10 TRANSMISSOMETERS	66	76	5.65
K309 ALIGN ANTENNA SYSTEMS	66	67	6.78
K332 PERFORMANCE CHECK AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	63	66	5.44
H223 PERFORMANCE CHECK FMN-1 RUNWAY VISUAL RANGE COMPUTING SETS	63	56	4.56
K333 PERFORMANCE CHECK INDICATING SYSTEMS	63	66	5.32
K340 REMOVE OR REPLACE COMPONENTS IN METEOROLOGICAL RADAR SETS	63	66	5.82
K310 ALIGN AUTOMATIC FREQUENCY CONTROL (AFC) CIRCUITS	63	67	6.47
H193 ANALYZE TMQ-11 DEWPOINT INDICATIONS	63	72	4.76
H243 REMOVE OR REPLACE COMPONENTS IN TMQ-11 HUMIDITY-TEMPERATURE MEASURING SETS	63	73	4.78
H194 CALIBRATE GMQ-10 TRANSMISSOMETER SYSTEMS	63	76	4.43
H232 REMOVE OR INSTALL COMPONENTS IN GMQ-10 TRANSMISSOMETERS	63	77	4.79
H191 ADJUST TMQ-11 TEMPERATURE SENSOR RHEOSTATS	63	72	4.04
K330 MEASURE TRANSMITTER OUTPUT POWER	59	63	5.15
K334 PERFORMANCE CHECK POWER MONITORING SYSTEMS	59	60	5.19
E89 LOCATE STOCK NUMBERS IN SUPPLY PUBLICATIONS	59	71	4.71
K337 PERFORMANCE CHECK TRANSMITTING SYSTEMS	59	66	5.39
F123 CLEAN OR REPLACE AIR FILTERS	59	66	2.47
H206 ISOLATE MALFUNCTIONS ON FMN-1 RUNWAY COMPUTING SETS	59	54	7.41

COMPARISON OF TASKS PERFORMED BY OVER 50 PERCENT OF COURSE 5AQN30230 ATTENDEES
(CONTINUED)

TASKS	PERCENT MEMBERS PERFORMING		TASK DIFFICULTY
	ATTENDEES (N=32)	NON- ATTENDEES (N=316)	
K314 ALIGN STORM DETECTION RADARS	59	62	7.58
F142 INVENTORY OR MAINTAIN ASSIGNED TOOL KITS	59	74	3.53
H213 MAKE ADJUSTMENTS TO FMN-1 RUNWAY VISUAL RANGE COMPUTING SETS	59	53	5.62
F125 COMPUTE CURRENT, VOLTAGE, OR RESISTANCE VALUES	59	73	4.79
F154 SOLDER CIRCUIT BOARDS	56	70	5.97
E90 LOCATE TECHNICAL PUBLICATIONS IN T.O. INDEXES	56	65	4.26
K320 DIAGNOSE SYSTEM TROUBLES FROM CRT INDICATOR DISPLAYS INFORMATION	56	63	6.30
F147 POLISH OR WAX EQUIPMENT OF FACILITIES	56	80	1.98
K308 ADJUST KLYSTRON TUBE VOLTAGES	56	62	5.10
H199 INSPECT FMN-1 RUNWAY VISUAL RANGE COMPUTING SETS	56	52	5.16
K311 ALIGN INDICATING SYSTEMS	56	67	6.22
K313 ALIGN RECEIVING SYSTEMS	56	67	7.09
F136 INSPECT GROUNDING SYSTEMS	56	75	4.22

GROUP DATASHEET

GROUP ID NUMBER AND TITLE: SPC025 - 5AQN30230 ELECTRONIC PRINCIPLES COURSE ATTENDEES

NUMBER IN GROUP: 32

PERCENT OF SAMPLE: 6%

LOCATION: CONUS (91%), OVERSEAS (9%)

DAFSC DISTRIBUTION: 30230 (56%), 30250 (41%), 30270 (3%)

AVERAGE GRADE: 3.3

JOB DIFFICULTY INDEX: 11.10

AVERAGE TIME IN CAREER FIELD: 18 MONTHS

AVERAGE DIFFICULTY
PER UNIT TIME SPENT: 4.64

AVERAGE TIME IN SERVICE: 32 MONTHS

AVERAGE TIME IN PRESENT JOB: 11 MONTHS

PERCENT MEMBERS IN FIRST ENLISTMENT: 78%

PERCENT MEMBERS SUPERVISING: 6%

WORK AREA/ORGANIZATION MOST TIME SPENT: DEPOT MAINTENANCE - 3%
CENTRALIZED REPAIR ACTIVITY - 19%
ORGANIZATIONAL MAINTENANCE - 69%
SPECIAL PROJECTS - 3%
STAFF FUNCTIONS - 3%

AVERAGE NUMBER OF TASKS PERFORMED: 86

NUMBER OF TASKS CONSUMING OVER 50 PERCENT OF JOB TIME: 48

TIME SPENT ON MAJOR DUTIES:

AVERAGE TIME SPENT
BY ALL MEMBERS

DUTY

H	PERFORMING OPERATIONAL CHECKS AND ADJUSTMENTS ON WIND, TEMPERATURE, VISIBILITY, AND CLOUD SETS	38%
F	PERFORMING GENERAL MAINTENANCE FUNCTIONS	28%
K	PERFORMING ADJUSTMENTS AND OPERATIONAL CHECKS ON RADAR EQUIPMENT	19%
E	PERFORMING GENERAL MAINTENANCE MANAGEMENT AND ADMINISTRATIVE FUNCTIONS	6%

GROUP DATASHEET

GROUP ID NUMBER AND TITLE: SPC030 - 5AQN30230 ELECTRONIC PRINCIPLES COURSE NONATTENDEES
HOLDING DAFSC 30230/30250

NUMBER IN GROUP: 316

PERCENT OF SAMPLE: 57%

LOCATION: CONUS (78%), OVERSEAS (22%)

DAFSC DISTRIBUTION: 30230 (4%), 30250 (96%)

AVERAGE GRADE: 4.0

JOB DIFFICULTY INDEX: 12.55

AVERAGE TIME IN CAREER FIELD: 45 MONTHS

AVERAGE DIFFICULTY
PER UNIT TIME SPENT: 4.64

AVERAGE TIME IN SERVICE: 55 MONTHS

AVERAGE TIME IN PRESENT JOB: 25 MONTHS

PERCENT MEMBERS IN FIRST ENLISTMENT: 59%

PERCENT MEMBERS SUPERVISING: 9%

WORK AREA/ORGANIZATION MOST TIME SPENT:	DEPOT MAINTENANCE -	7%
	CENTRALIZED REPAIR ACTIVITY -	27%
	ORGANIZATIONAL MAINTENANCE -	65%
	SPECIAL PROJECTS -	10%
	STAFF FUNCTIONS -	4%

AVERAGE NUMBER OF TASKS PERFORMED: 106

NUMBER OF TASKS CONSUMING OVER 50 PERCENT OF JOB TIME: 60

TIME SPENT ON MAJOR DUTIES:

DUTY

AVERAGE TIME SPENT
BY ALL MEMBERS

H	PERFORMING OPERATIONAL CHECKS AND ADJUSTMENTS ON WIND, TEMPERATURE, VISIBILITY, AND CLOUD SETS	33%
F	PERFORMING GENERAL MAINTENANCE FUNCTIONS	29%
K	PERFORMING ADJUSTMENTS AND OPERATIONAL CHECKS ON RADAR EQUIPMENT	16%
E	PERFORMING GENERAL MAINTENANCE MANAGEMENT AND ADMINISTRATIVE FUNCTIONS	9%